The Horace Dobell Lecture

ON

THE EVOLUTION OF THE STREPTOCOCCI.

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MR. PRESIDENT AND GENTLEMEN,—The purpose of the Horace Dobell Research Lectureship is very clearly defined. It is "to encourage research into the ultimate origin, the evolution, and life-history of bacilli and other pathogenic organisms." In accepting the great honour of delivering this, the second lecture on the subject, I have not ventured to deal with more than a small part of so vast a field for research and speculation. It is my duty to consider not so much the facts of pathological bacteriology as the conditions which have led up to those facts. The problems involved are obscure; they can only in part be elucidated by direct experiment, but a careful study of what is at present known as to the biological characters and distribution in nature of certain groups of bacteria allows of tentative conclusions as to their probable line of evolution.

There are two ways in which the evolution of pathogenic bacteria may be considered—the general and the particular. Dr. E. Klein, who preceded me in this lectureship, devoted himself to a very able exposition of the general relationship between saprophytic and parasitic micro-organisms. It is therefore not unfitting that I should pursue a different course—that I should take as my theme one particular group of bacteria and endeavour to trace the lines along which its development has taken place.

For various reasons I propose to direct your attention to the streptococci. This group of bacteria is well fitted for my purpose because it is an abundant and variable group—one which seems to be succeeding in the struggle for existence, and in which the processes of evolution have free play. Further, it is a group of the highest importance in medicine and surgery; many of our commonest and most dangerous diseases are due to streptococcal infection. It is also a group to which I have devoted some years of personal study.

I do not venture to deal with the ultimate origin of the streptococci. Bacteria are almost, if not quite, the simplest and most primitive forms of organic life. They may well have been amongst the earliest living creatures to appear on this planet; their origin is wrapped up in the mystery of the origin of life itself.

Some may ask how it is that, during the millions of years which have elapsed since bacteria first existed on the earth, they have remained so simple in structure,—why it is that they have failed to develop into higher and more complex forms of life. To the evolutionist the answer is simple. It is, in the first place, probable that they have so developed and that the higher fungi and perchance other forms of vegetable life actually own a bacterial ancestry. In the second place it is likely that those forms which have persisted in the shape of bacteria owe the very fact of their persistence to their simplicity. There is a void in nature which can effectively be filled only by the infinitely little. A being which is excessively minute but capable of rapid and almost indefinite multiplication may survive and flourish where higher and more complex organisms must perish, and this more especially if it can withstand weeks or months of desiccation, remaining dormant till favourable conditions recur. Nor must we lose sight of a fact, which a study of the streptococci very well exemplifies, that morphological simplicity may coexist with a high degree of physiological specialisation. The bacteria have fitted themselves in the course of their evolution to widely divergent chemical and physical environments. Evolution is concerned with the survival of such forms of life as can most successfully adapt themselves to fill otherwise unoccupied nooks in nature. Mere increase in structural complexity is by no means the only way in which this can be secured.

Looking at the streptococci as we see them at the present day we find them a well defined natural group of bacteria deserving in all ways to rank as a "genus" in the natural history sense. The cocci are placed lowermost in the bacterial scale; the sphere is regarded as a more primitive morphological type than the rod, and the cocci also lack the more specialised structural features seen in many bacilli, such as the power of forming resistant endospores and, save in a few instances, the development of organs of locomotion. The division of the cocci into genera is based largely upon the arrangement of the units in larger groups, which again depends upon the series of planes in which fission takes place. The streptococci owe their name to the fact that the individual cocci are attached end to end in the form of a chain. This grouping is due to the constancy of the plane of division, which is always the same—a plane at right angles to a constant axis of growth, as in the bacilli. In this limitation they are peculiar amongst cocci and the fact suggests that the streptococci may represent the line along which some at least of the rod-shaped bacteria have diverged from the primitive spherical form. This view is borne out by the occurrence of definitely bacillary forms amongst the streptococci, and amongst these cocci alone. Gordon has published photographs showing that the streptococcus which is associated by Klein and himself with scarlet fever may form, on serum, rods which closely mimic the diphtheria bacillus, though in a liquid medium it grows in typical streptococcal form.

Certain streptococci possess a thick and well-defined capsule, but even in the forms which show this capsule it is not constant but depends upon the medium in which the coccus is growing. The organism in which a gelatinous capsule attains its most extreme development is to be referred to the streptococci—viz., Leuconostoc mesenteroides, the bacterium responsible for certain deleterious fermentations in sugar factories and breweries. The enormous capsule which it develops when growing in suitable dextrin-containing media justifies the name "frog-spawn fungus" by which it is sometimes known. Yet in the usual culture media it appears as an ordinary streptococcus, with no visible capsule. The pneumococcus, again, now generally recognised as belonging to the genus streptococcus, forms its characteristic capsules only when growing in the animal body or in certain special culture media. Schottmüller has described as "Streptococcus mucosus capsulatus" a form with well-marked capsules which he considers distinct from the pneumococcus. Bordet mentions a streptococcus which in the tissues of the guinea-pig produces a capsule almost rivalling that of leuconostoc in thickness. The development of a capsule in these various streptococci only under special conditions of growth, together with similar facts in the case of certain other bacteria—e.g., the anthrax bacillus—supports Metchnikoff's contention that the capsule is a defensive mechanism. Certain streptococci have on this view acquired the power of throwing out a gelatinous capsule as a protection against injurious agencies which may be brought to bear against them. They do so only when the need for such defence arises.

Although the mode of growth in a chain constitutes the essential generic feature of the streptococci, and while certain minor structural differences are to be observed amongst them, morphology is of singularly little help when we attempt to use it as a means of specific classification. This is now well recognised amongst all groups of bacteria and is a necessary corollary of the principle, already mentioned, that the evolution of these minute forms of life has proceeded on lines of physiological rather than morphological specialisation. In the endeavour to differentiate species the bacteriologist is everywhere compelled to take into account the sum total of the biological characters of any given form.

It may very properly be asked whether the attempt to define distinct species, of a more or less permanent nature, such as we are accustomed to deal with amongst the higher plants and animals, is not altogether illusory amongst such lowly organised forms of life as the bacteria. No biologist nowadays believes in the absolute fixity of species. It is recognised that those groups of like individuals, which we agree to group together for our convenience under a common name, have arisen from pre-existing species and that in many cases transitional forms can be found. It has further been made plain that the relative fixity of specific distinctions varies widely in different groups. Those forms of life which are manifestly succeeding above their fellows in the struggle for existence and are rapidly adapting themselves to

new environments, show, as a rule, less specific fixity than other forms. The bounds of the individual species are ill-defined and transitional forms are numerous. Amongst British plants the brambles are often quoted as such a group; botanists have long been puzzled to define the species and have been compelled to resort to the idea of sub-species. Hooker describes no less than 21 sub-species of the common blackberry.

Such successful and variable groups are often spoken of as "dominant genera" and they are to be found as much amongst the bacteria as higher in the vegetable scale. But there are two circumstances which here render the problem of specificity even more difficult of solution. The bacteriologist is deprived of the test of mutual fertility or sterility, so valuable in determining specific limits amongst organisms in which sexual reproduction prevails. Further, the extreme rapidity with which generation succeeds generation amongst bacteria offers to the forces of variation and natural selection a field for their operation wholly unparalleled amongst higher forms of life. The machinery for the production of new varieties is enormous in the case of organisms which can provide 20 or 30 generations in a day. It seems within the power of the bacteriologist, by modifying the physical conditions under which he causes his cultures to grow, to produce new races of bacteria of a certain degree of stability. It is, indeed, not unreasonable to assume that organisms on the very confines of life, extremely primitive in structure, capable of varied physiological activities and of enormously rapid reproductive power, should be capable of variations almost of specific extent within a comparatively short space of time. We might almost expect the limits of species to be more intangible amongst the bacteria than amongst higher organisms. Nevertheless, many species of bacteria exhibit characters which seem quite fixed and rigid. The anthrax bacillus and the tetanus bacillus are quite as good "species," in the natural history sense, as any that can be found amongst flowering plants. It is only when we come to the dominant genera that difficulties arise. The "bacillus coli group" is an excellent example of such a genus. The more this group is studied the more perplexing is the maze of species and sub-species, and it is significant that the tests which now enable us to pick out the chief forms are physiological and not morphological. We employ as differential tests their capacities for utilising different carbohydrates, their ability to clot milk or reduce neutral red, or we make use of agglutination tests with the serum of an animal immunised against a known member of the group. Even so, there seems to exist, outside the recognised types, a mass of forms of doubtful specific value, bridging over the gaps between the better known species, and this is much what the evolutionist would expect to find in a successful and rapidly varying group.

Now what is true of the bacillus coli group is true of the streptococci, which also form a dominant genus. Their vast abundance in nature is evidence that they have succeeded in the struggle for existence and are still maintaining their supremacy in the field which they have adapted themselves to fill. Their varieties are even more bewildering than those of the bacillus coli group and, as Gordon has shown, they can be differentiated by their physiological powers far better than by morphological structure. I have dealt elsewhere,[1] in conjunction with Dr. J. T. Horder, with the question of the classification of the streptococci. The conclusion to which I have been led, from a critical examination of all available tests, is that the streptococci met with in human beings, in health and disease, present some half-dozen forms of approximately specific value connected by a multiplicity of intermediate varieties.

I propose now to direct your attention in some detail to the various biological characters shown by the streptococci from the special point of view of my subject—namely, the course of their evolution. I hope to be able to show that we may infer with some certainty the stages by which the more virulent forms have reached their present position.

There are three modes of life recognisable amongst bacteria. In the first, nourishment is obtained from exceedingly simple chemical sources. Plants are typically mineral feeders, obtaining their nitrogen from nitrates and their carbon from carbon dioxide; most plants cannot utilise more complex substances as food. Animals, for the most part, derive their sustenance from highly complex bodies, such as proteids, hydrocarbons, and carbohydrates found in dead organic matter; they cannot utilise nitrogen or carbon in simple mineral form. Some plants, notably the fungi to which bacteria belong, have more or less adopted this mode of life, nourishing themselves as "saprophytes" on dead organic matter. Lastly, some plants and animals have acquired the power of feeding on living organic matter; these are the true "parasites." Fischer has employed the terms "prototrophic," "metatrophic," and "paratrophic" to distinguish these modes of life. It is probable that the primitive bacteria were prototrophic; the earliest forms of life must certainly have had only mineral food to live on. Even to-day there remain bacteria which are exclusively mineral feeders, such as the "nitrifying bacteria." Most bacteria, however, have adapted themselves to a diet of dead organic matter and appear as saprophytes, though some, such as the bacillus pyocyaneus, are also still well able to derive their nitrogen in typical vegetable fashion from ammonium salts or even nitrates. Some bacteria have acquired paratrophic powers, and these are the kinds dangerous to man from their capacity to grow in his living tissues and produce disease. There are even bacteria which have so far specialised in this direction as no longer to be capable of nourishing themselves on dead organic matter. These are the strict parasites which we are at present unable to grow on any artificial culture media.

The streptococci have advanced part of the way along this path. They have cut themselves wholly adrift from mineral food. I have tested some 12 diverse kinds derived from air, sewage, horse-dung, and different human diseases, but no one sort has succeeded in nourishing itself on such a nitrogenous compound as asparagin, still less on ammonium tartrate. I have inoculated human saliva, rich in streptococci, from three different sources into a medium containing asparagin and glucose, and carried out subcultures for several generations, but no streptococcus has survived. The power of subsisting wholly on mineral food seems completely lost. All known streptococci, on the other hand, can be grown on artificial culture media containing proteid. They are found in the greatest possible abundance under such saprophytic conditions as are provided by the alimentary canal of man and animals.

I must dwell for awhile upon the distribution of the streptococci in nature because the facts have a most important bearing upon the line of their evolution. Streptococci grow as a rule more readily and certainly in liquid than on solid culture media. By adopting the method of decimal dilutions (a method susceptible of great accuracy) and by employing broth as the culture medium it is easy to determine the numerical limits of the streptococci in any desired secretion or excretion. Gordon has applied this method to human saliva, or rather to the mixed buccal secretions, and he has found that the healthy human mouth yields a fluid which contains on an average between 10 and 100 million streptococci per cubic centimetre. No other organisms can compare with these in frequency. An agar-agar plate prepared from one-millionth of a cubic centimetre of saliva will yield perhaps 100 colonies, and of these one or two may be staphylococci or other bacteria, but all the rest will be streptococci. These organisms are the characteristic bacteria of the mouth. No precise data are to hand as to the numerical abundance of streptococci in the buccal secretions of the lower animals, but Dr. Gordon informs me that he has found them in abundance in the saliva of the dog.

When we turn to the intestine the facts are no less striking. It is customary to regard the bacillus coli group as the most characteristic intestinal bacteria, but Houston admits that he has many times found that streptococci surpassed the colon bacilli in abundance in normal human fæces; they were at times present to the number of 1,000,000,000 per gramme. I have examined both horse-dung and fox-dung, using the method of decimal dilutions, and in each case I have found streptococci to be by far the most numerous bacteria present, greatly exceeding the colon bacilli in abundance; they were found to the number of at least 10,000,000 per gramme. In the case of the stoat, which I have examined twice, I found them less abundant than a small bacillus growing in long chains, but even here they were present up to 1,000,000 per gramme of the contents of the colon. Streptococci are thus present in the intestine of man and of such animals as have been examined in vast numbers, exceeding in most cases all other bacteria. It is probable that the conditions afforded by the alimentary canal are peculiarly favourable to the streptococci. On the drier surface presented by the skin they are less able to

[1] THE LANCET, Sept. 15th (p. 708), 22nd (p. 775), and 29th (p. 852), 1906.

flourish; here they are altogether outnumbered by the staphylococci, though they are met with from time to time.

I have brought forward sufficient evidence to show that the streptococci are well-established saprophytes of the alimentary canal, but it still remains to consider where else they occur in nature. The form known as leuconostoc occurs as a troublesome "disease" in breweries and sugar factories, but with this exception I know of no evidence that streptococci have any true home, under natural conditions, apart from the animal body. They are certainly abundant in the air of London, but these common air-streptococci are, as I have elsewhere shown, identical with the forms most abundant in the horse-dung which is amongst the chief constituents of London street dust. They occur, too, in water, but in proportion to its contamination with sewage, or, at least, with animal excreta. Much the same is true of earth and soil. In all these situations streptococci may, indeed, be found, but always, it would seem, as the result of pollution with animal matter. They cannot grow and multiply for any length of time apart from the animal body. Houston tested a large number of streptococci in sterile tap-water and sterile salt solution; many died out in a few days and those that survived for 40 or 50 days showed a great decrease in their numbers. So well is this recognised that streptococci are now chosen as test organisms for recent sewage pollution of water or soil.

From these facts we may draw the important conclusion that to all intents and purposes the streptococci are, at the present day, exclusively attached to the animal body and in particular to the alimentary canal. Here, and here alone, they flourish and prevail in incredible numbers. Voided from the body they may survive for a time in earth or water or dried up as air-borne dust, but to thrive and to multiply such derelict individuals must be swallowed anew by a suitable host. It is not difficult to understand how this state of affairs has come about. Inasmuch as bacteria are of far greater antiquity than the higher animals, the streptococci, if they were then differentiated from other cocci, must have been originally independent organisms. But with the evolution of the higher animals new possibilities arose, which have been fully utilised by bacteria. Streptococci or their antecedent forms must have been swallowed by the higher animals with their food, and arriving thus in the first place by chance in the alimentary canal must have found there conditions extremely favourable to their existence—a warm and equable temperature, with the organic matter, which they needed as food, in the utmost abundance and variety. It is no matter for surprise that the fortunate individuals which happened to gain such an advantage made good use of it and that the alimentary canal of warm-blooded animals became the chosen abiding place of streptococci amongst other bacteria. But, above most other bacteria, the streptococci have succeeded in the struggle for existence by their ability to adapt themselves to the conditions of life in the alimentary canal. This is shown by the biological features which they now exhibit.

The conditions of life in the intestine are largely anaerobic—that is to say, there is little or no free oxygen available. The gases of the intestine do not contain free oxygen, and they do consist in part of marsh gas and traces of sulphuretted hydrogen, which could hardly have been formed in presence of free oxygen. Some of the most characteristic chemical processes of the intestine are reducing changes. Strictly anaerobic bacilli, such as the bacillus enteritidis sporogenes, are known to be able to flourish and form spores there. The primitive mode of life amongst bacteria must have been aerobic; the power of obtaining the necessary oxygen by chemically splitting up organic compounds, in the absence of the free gas, is a secondary acquirement. The streptococci—like those other typical intestinal saprophytes, the bacillus coli group—have acquired this power to a marked degree. None are obligate anaerobes, but all the forms of streptococci which I have tested can grow quite as well under anaerobic as under aerobic conditions. This power seems clearly an adaptation to the conditions prevailing in their chief habitat.

It is justifiable to assume that the primitive temperature requirements of bacteria were those of the water or soil in which they lived. The majority of streptococci can grow fairly well at the ordinary summer temperature of the air, though not well below this. Even a fall to 18° C. in the temperature of the incubator will often prevent their growth. But practically every sort grows much more freely and vigorously at the temperature of the human body and there are some—e.g., the pneumococcus—which can scarcely flourish below 25° C. The mere fact that a given bacterium grows most luxuriantly at the body temperature of warm-blooded animals is, to the evolutionist, in itself sufficient evidence that it has adapted itself by long usage to such saprophytic or parasitic association; it is, indeed, incredible that it should have acquired such a property in any other way. The temperature requirements of the streptococci are thus clearly an adaptation to their chosen mode of life and confirm the view which I have deduced from their distribution in nature.

The resistance of streptococci to injurious external agencies may also be cited as an argument in the same direction. Against heat their resistance is not great; amongst non-sporing bacteria they are the most easily destroyed by temperatures of from 54° to 56°C. Probably under the equable temperature conditions of the animal body they have never had occasion to develop any unusual powers in this direction. But against desiccation their resistance is of a much higher order. I have dried a broth culture of the common horse-dung streptococcus on garnets and found the cocci alive at the end of two months, though they were dead in three months. Even Streptococcus pyogenes can resist similar drying for four or five weeks. I have been able to revive old dried cultures of some of the common streptococci from the intestine after they had been lying uncared for in the incubator for as long as nine months. The possession of this power is of manifest utility to the race. As intestinal saprophytes the great bulk of the inhabitants of any given intestine are prone to be voided in the fæces. The continuance of the species by such individuals would be impossible, when once the fæces became dry, could they not tide over the period of drought till, wafted as dust in the air, some favoured individuals chanced again to enter the mouths of other suitable hosts. The power of resisting desiccation is thus a special adaptation to saprophytic life in the alimentary canal.

More difficult to explain is the resistance displayed by streptococci to certain chemical poisons, a resistance which they share with such other intestinal saprophytes as the bacillus coli group. Like these, they can grow well in broth containing 1 part in 1000 of carbolic acid and also on Conradi and Drigalski's medium (in which 1 part of crystal violet in 100,000 inhibits the growth of most other organisms). It is possible that intestinal bacteria have to contend with certain toxic products of digestion and that an acquired resistance has thus been developed, though I am not in a position to indicate what these toxic substances may be.

But it is in their powers of assimilating various chemical bodies as food that the streptococci best show their adaptation to a saprophytic existence in the alimentary canal. The contents of this canal in different animals must present an exceptional variety of foodstuffs suitable for bacterial requirements. Not only is the food of animals various in character, but in the intestine it is already beginning to be broken down by the processes of digestion into more simple and still more numerous substances of a more assimilable nature. A vast choice of foodstuffs is thus presented to the bacteria dwelling there, and they have been enabled to specialise, as it were, in their metabolic powers to any degree they pleased. The chemical power to deal with this or that substance as food—presumably involving the capacity to form a suitable enzyme—is a biological character quite as worthy of attention, in discriminating between allied forms of bacteria, as any that shape, size, or other external features can offer. I have already pointed out that it is on such physiological lines that the streptococci appear to have become differentiated. There is, unfortunately, only one group of foodstuffs concerning which we have much detailed information in relation to the streptococci—namely, the carbohydrates and allied glucosides, together with some of the higher alcohols. This information we owe to the laborious investigations of Gordon, who tested the powers possessed by a variety of streptococci upon 14 carbohydrates, 13 glucosides, and six polyatomic alcohols. Many of these test substances proved of no differential value as regards streptococci, either because they were uniformly attacked by all the forms tested, or because no streptococcus could ferment them, but he was led to select a series of seven substances as of special value as tests for streptococci and to these he added two further tests, the clotting of milk and the reduction of neutral red. He applied these tests to 300 strains of streptococci derived from normal saliva. Houston also applied

them to 300 strains of streptococci from normal human fæces. Gordon was able to distinguish no less than 48 chemical varieties amongst the salivary sorts, and Houston, employing only eight of Gordon's tests, found 40 chemical varieties in the fæces. As I have elsewhere argued, it would be absurd to regard these chemical variations as necessarily of specific value. Nevertheless, as Gordon has shown, and as I and others have confirmed, these chemically different strains present a high degree of constancy. Gordon's tests, individually, are probably of varying value, and must be taken in conjunction with other characters in any estimate as to what constitutes a species. But his results conclusively prove that very wide differences have arisen amongst the saprophytic streptococci of the alimentary canal as to their ability to use this or that foodstuff, and that such differences are to a considerable degree constant in any one strain. It is fully in accord with all that we know of the processes of evolution that such differences should have arisen in the special circumstances to which the streptococci have adapted themselves. They must, almost inevitably, have specialised in metabolic powers, in correspondence with the peculiar facilities afforded by their surroundings and we may justly take these variations into account in our attempts at their specific classification. This I conceive to have been the line along which their evolution has taken place so far as concerns their saprophytic existence in the alimentary canal.

Many, perhaps most, of the known varieties of streptococci have remained at this stage of evolution, content with a saprophytic life under such favourable conditions as I have described. But there are certain forms which have advanced farther than this, having acquired definitely parasitic powers. I have now to discuss the probable ways in which the power of growth in the living tissues has been developed. It is certain that bacteria must continually gain access to the tissues and blood stream of man and animals, but while the body is in health they are as continually destroyed. The most trivial lesion of skin or mucous membrane must admit them in numbers. Fat globules are taken up by the intestinal lymphatics and it is incredible that with them the much more minute bacteria which swarm in countless myriads in the intestine should not be taken up also. Doubtless most of these are retained and destroyed in the lymphatic glands which stand as sentinels at each portal of ingress, but despite this, many stray bacteria must manage to effect an entry. We have, indeed, abundant proof that such is the case, though time fails me to recite it here. The body possesses effective means of dealing with such intruders. It can mechanically destroy them by the phagocytic activity of appointed cells, such as the polynuclear leucocytes. Phagocytosis is a power of extreme antiquity. The masterly researches which Metchnikoff has embodied in his lectures on the comparative pathology of inflammation show that, even in the lower invertebrates, the wandering mesoblast can deal with foreign particles by processes of ingestion and digestion. Even the amœba seems to feed largely on bacteria which it has engulfed; phagocytosis would indeed appear to be the simplest and most primitive means by which a larger cell can overcome a smaller one with which it is brought into antagonism. The investigations of Wright indicate that in the higher vertebrates the process of phagocytosis has nowadays become more complex and that it involves in the case of bacteria a preliminary chemical action by substances which he terms "opsonins" before the phagocytes can exert their powers. We do not know how far down the animal kingdom this opsonic power extends, but amongst the higher vertebrates we must now recognise its existence as an added means which the body can bring to bear upon intruding bacteria for their destruction. Nor is this all. Quite apart from phagocytosis the body appears able to form cytolytic substances which can disintegrate bacteria by purely chemical means. In face of all these defensive agencies no simple saprophyte has much chance of escape should it gain access to the blood or tissues, at least while the bodily activities are in full vigour. For it is only by such means that the animal body can maintain its integrity against the continued assaults of its ubiquitous bacterial foes and these means have certainly been evolved as a protective mechanism during ages of such conflict by a process of natural selection. But natural selection has also aided the bacteria. Some of them, doubtless by the survival of suitable variations, have acquired a greater or lesser degree of power to withstand the mechanisms brought against them by the body for their destruction, so that, having gained access to the blood or tissues, they can contrive to maintain their foothold and multiply for a longer or shorter period. Amongst the streptococci there are many which have arrived at this stage of evolution: they have become *facultative parasites*, though possessed of but a low degree of virulence.

The application of Gordon's series of metabolic tests enables us to sort out the forms of streptococci met with in disease with a precision which has hitherto been impossible. In conjunction with Horder I have recently published the details of the examination of more than 200 strains of streptococci from cases of human disease, and our results are of peculiar interest at this stage of the argument. We have again and again isolated from the blood or diseased tissues streptococci in all respects identical with those found by Gordon and by Houston in the healthy alimentary canal. There is a type of short chained streptococcus which occurs, indeed, throughout the alimentary canal, but is so specially characteristic of the buccal cavity that the term "Streptococcus salivarius" is appropriate for it. There is another type equally characteristic of the intestine, which I have called "Streptococcus fæcalis." Both these are habitually short chained forms, rendering broth uniformly turbid. Alike in the hands of Gordon and of Houston they proved harmless when inoculated into mice. They present many minor variations in their chemical properties but are, as a rule, readily enough recognisable. Now Horder and I found these two forms commonly in diseased conditions in circumstances which frequently left no doubt that they were truly pathogenic agents. We met with Streptococcus salivarius 26 times and with Streptococcus fæcalis 13 times in such circumstances. And the interest of our findings lies especially in this—that the diseases with which these common saprophytes were associated were for the most part either chronic inflammatory processes, without marked symptoms, or terminal infections; they were almost never (save in perforative peritonitis, in which the irruption into the peritoneum of mixed fæcal organisms in bulk produces a rapidly fatal result) the acute processes which are generally seen in the diseases due to the Streptococcus pyogenes. Streptococcus salivarius and Streptococcus fæcalis are common terminal infections, recovered after death from the blood where the fatal issue has clearly been primarily due to some other cause. They are the typical infecting agents in the ordinary chronic types of malignant endocarditis, and Streptococcus fæcalis is often met with, sometimes in pure culture, in cases of chronic cystitis in which pyuria is almost the only symptom.

The inference which may be drawn from these facts is, I think, clear. It is that certain of the common streptococci of the alimentary canal have become weak facultative parasites. They have not progressed so far as to attack healthy tissues; they cannot produce an acute suppuration; but they can and do multiply in the blood during the last hours of life and, given a weak spot in the body, where resistance is lowered, they can establish themselves as the causes of a chronic inflammation, which in certain situations—e.g., the bladder—may even be more or less suppurative in character. There is a curious parallel between the two great groups of intestinal saprophytes—the streptococci and the bacillus coli group—in their behaviour as facultative parasites. The bacillus coli plays its part in perforative peritonitis; it is a common infecting agent in chronic cystitis; it occurs in terminal septicæmias, and I have once known it the cause of a malignant endocarditis.

The feeble virulence of the streptococci which have progressed only thus far in their parasitic career is manifested in various ways. I have said that Gordon and Houston found the common salivary and fæcal streptococci devoid of virulence for the mouse. This is for the most part true also of Streptococcus salivarius and Streptococcus fæcalis from cases of human disease. Occasionally such forms seem to have so far increased their virulence by residence in human tissues as to become pathogenic to the mouse, but this is exceptional. I have mentioned the chronicity and the habitual absence of suppuration in human infections by these streptococci, facts which point in the same direction, and I may add that in the test-tube such races of salivary and fæcal streptococci as I have tested showed no hæmolytic powers, such as are manifested by the more virulent Streptococcus pyogenes and its allies. On the other hand, they are found to have retained, even when isolated from the tissues in disease, the characteristic chemical properties which they had developed as intestinal saprophytes—e.g., such reducing powers as the neutral red change and the formation of sulphuretted hydrogen.

I must now pass on to a consideration of the final stages in the evolution of the streptococci, the stages by which certain of them have acquired more highly developed parasitic powers and a high degree of virulence. Not content with a merely passive resistance against the defensive mechanisms of the body there are streptococci—notably the streptococcus pyogenes and the pneumococcus—which have developed actively aggressive powers. They have learned to deal back blow for blow, to manufacture chemical poisons—hæmolysins, which break up the red blood corpuscles, and deadly toxins, causing destruction of the tissue cells with which they come in contact. It cannot be doubted that these aggressive properties have been gradually developed by the action of natural selection. The saprophytic field in the alimentary canal was fully occupied—nay, overcrowded; the struggle for existence there must have become keen indeed, when every gramme of fæces contained its hundreds of millions of bacteria each striving for a livelihood. Immediately outside that field, separated only by a thin wall of cells, lay virgin pastures ready for any micro-organism which could overcome the opposing powers which defended the living tissues. Innumerable chances of ingress into the tissues, blood- or lymph-stream must have occurred day by day in countless hordes of vertebrate hosts through untold ages. And when the favourable variation by chance arose which enabled a given streptococcus to hold its own, even for a time, against the defensive mechanisms of the body, we may well suppose the advantage to have been perpetuated and in time intensified by natural selection. As the parasitic mode of life became more firmly established in such successful strains we can perceive the additional advantage which must have accrued to the streptococci from the development of active weapons of offence. The power of forming hæmolysins and toxic substances may well have been gradually evolved by the survival of favourable variations—favourable, needless to say, to the bacteria, though grievously unfavourable to the host. Only too often these formidable powers enable the streptococci to obtain the victory over the forces marshalled against them, to riot at their pleasure in the blood or tissues with results fatal to the body to which they have gained access.

In face of these new dangers we cannot imagine that the forces of natural selection have been idle in the host. The defensive powers which were adequate against the casual vagrant no longer suffice against the well-equipped forces of the virulent microbe. It has been necessary to evolve new means of defence, doubtless by slow degrees and again by the survival of favourable variations. The body has learned to marshal its phagocytes in more effective battle array by means of the acute vascular reaction seen in the process of inflammation. It has found out how to render its temperature conditions inimical to the invading host in the response to infection which we term "fever." It meets toxin by the development of antitoxin—hæmolysin by antihæmolysin. Little as we yet know as to these various actions and reactions, we can see plainly that the battle known as infective disease is a process of the most extreme complexity.

I have now endeavoured to pourtray the presumptive line of evolution of the streptococci from the stage of harmless mineral feeders, through that of saprophytism in the alimentary canal, to the development of weak powers of parasitism which have culminated in certain instances in the fully-developed property of aggressive parasitism seen in the streptococcus pyogenes. I know of no certain evidence that any streptococcus has advanced further than this and cut itself entirely adrift from saprophytism as an obligate parasite. It may be that there are such streptococci. If, for example, it were certain that scarlet fever was due to a specific streptococcus, the organism might prove an example of such further development. There is considerable circumstantial evidence connecting scarlet fever with the streptococci: these organisms certainly play a part of overwhelming importance in the secondary phenomena of the disease, but crucial proof is as yet lacking that the primary cause is any one species of streptococcus.

Before I conclude, it is my duty to draw attention to what at first sight seems a very serious difficulty in accepting the picture I have drawn of the mode in which parasitism has arisen amongst bacteria. I have attributed it to the struggle for existence and to the action of natural selection in perpetuating variations favourable to the conquest of a new field. If it were merely a question of filling a previously unoccupied nook in nature—of permanent appropriation of a virgin soil, the matter would be easy of comprehension. But it is not so: pathogenic bacteria do not permanently establish themselves in the tissues of the host; they succeed only for the time being. If we look at matters as they exist to-day we see an organism, perhaps one habitually saprophytic in the alimentary canal, gaining access to the living tissues, maintaining its foothold there and setting up an infective disease. And after an acute or chronic course we see that this now ends in one of two ways: either the body gets the better of the intruders and exterminates every individual from its tissues or the bacteria get the better of the body with a fatal issue to the latter. The fight may be prolonged over months or years but in the long run one of these two events comes to pass; there seems no middle course. But in neither of the two events does it appear that the bacteria which have secured a temporary foothold in the living tissues have much prospect of transmitting to descendants the special properties which have led to their success. If they fail they are not driven back into saprophytic existence—they perish, every one. And if they succeed they do so to their cost, for with the destruction of the body which harboured them the arena of their triumph soon becomes untenable and in the orgy of putrefactive processes the pathogenic agent is no less surely exterminated. It is true that, when once a high type of virulence has been developed, infection may be readily transmitted during life from the sick to the healthy; there is no difficulty in understanding how the micro-organism of any given infectious fever maintains itself or even increases its virulence. The difficulty is in explaining how the first rudiments of the parasitic power were transmitted to succeeding generations, when the invasion was but slight and hesitating and failure was almost inevitable.

The difficulty is more apparent than real, and a little consideration will show how we may escape from the dilemma. We have no right to judge all the processes of evolution from the conditions which we observe at the present day, when actions and reactions have reached a high degree of complexity. The earliest beginnings of parasitism must be of exceedingly remote antiquity. The first attempts of bacteria to invade the living tissues probably met with but slight resistance. The defensive mechanisms of the body have been gradually acquired as the result of bacterial assaults through millions of years. The reactions between tissues and bacteria, which I have perforce spoken of successively, must in reality have grown up slowly side by side. The difficulty I have mentioned would be a serious one only if the first assaults of bacteria had occurred when the defensive mechanisms were already fully developed. But this is inconceivable, for we must believe the means of defence to have been evolved in response to the assaults. The sequence of events may be likened to a game of chess in which the bacteria had the first move and have always been the attacking side. The beginnings of parasitism are not difficult to understand in the light of primitive conditions. The higher degrees of bacterial virulence, the more elaborate protective mechanisms of the body, are but the final upshot of the action of natural selection upon both sides during this age-long conflict.

I have striven in this lecture to depict what I conceive to have been the necessary stages in the evolution of infective disease. I have used the streptococci as my text, but I do not doubt that the same principles hold good for all pathogenetic bacteria, though the details must have varied in the case of different organisms. An infective disease, as we understand it to-day, is a battle between two opposing forces which ends now in the triumph of the one side, now of the other. It is the business of the medical practitioner to interfere in the conflict—to turn the scale, if he may, against the invading bacteria. Of what vital import, then, is it that he should have a clear mental picture of the nature of the struggle and of the weapons in the hands of the several combatants. In the past the interference of the medical man has ofttimes been ill-judged and meddlesome. It is not long since he mistook the very reactions of the body against invading bacteria for the essence of the disease and waged war against fever and inflammation as devils to be cast out. We have now begun to realise that these reactions may be on our side—things to be helped rather than hindered. And the day has begun to dawn in which we can hope to do something more than adopt a purely expectant treatment. We can at times directly assist the patient in the development of antibodies against the persons or the poisons of

his enemies; we can even present him with ready-made antibodies in cases where he has not time or power to elaborate them for himself. True, we are still stumbling more or less in the dark, but it is impossible to survey the advances of the last ten years without a feeling of the strongest hope. Our advance must be in proportion to our knowledge and understanding of the intimate details as to the nature of the struggle between the body and its unbidden guests. I trust that the poor sketch of the origin and progress of that struggle which, by the munificence of Dr. Horace Dobell, I have to-day been enabled to put before you may perhaps serve to advance some practical end in the treatment of infection, if only by a better understanding of its nature.

ABSTRACT OF

The Fitz-Patrick Lectures

ON

THE HISTORY OF THE STUDY OF CLINICAL MEDICINE IN THE BRITISH ISLANDS.[1]

Delivered before the Royal College of Physicians of London on Nov. 8th and 13th, 1906.

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LECTURE II.[2]

Delivered on Nov. 13th.

MR. PRESIDENT, CENSORS, AND FELLOWS OF THE COLLEGE,—The study of clinical medicine was established in England by the practice and the writings of Mayerne, Glisson, and Sydenham. Though Mayerne was not an Englishman by birth or education Glisson and Sydenham were thoroughly English in habit of mind and owed, I think, nothing to any foreign influence. The admirable "Observationes" of John James Wepfer of Schaffhausen, published in 1658 and enlarged in 1678, in which he demonstrated the relation between apoplexy and cerebral hæmorrhage, was eight years later than the "Tractatus de Rachitide" of Glisson, and though the subject is set forth in different forms the scientific method of the two books is the same. Wepfer observed cases during life and explained their relation to the anatomical changes demonstrated after death, yet his book seems to have been little read in England. It is not, for example, mentioned in the controversies which arose about the attack of apoplexy which was the beginning of the fatal illness of King Charles II., nor is there the least allusion to it in the "Cerebri Anatome" of Willis, published in 1664.

The three books of observations of Nicholas Tulpius beautifully printed by Louis Elzevir at Amsterdam in 1641 contain 164 brief but lucid notes of extraordinary circumstances or unusual symptoms of illnesses, amongst them the first description of the sputa of fibrinous bronchitis which he took to be branching pulmonary veins detached from the substance of the lung; but these notes are not to be compared to the daily observations of the three great contemporaries of Tulpius in England.

In the times following those of Sydenham, Radcliffe, Garth, Arbuthnot, Freind, Sloane, and Mead had all great opportunities of clinical observation and understood their importance. Radcliffe showed by his magnificent gifts how much he cared for learning and for medicine and his reputation among physicians was chiefly due to his acute observation of disease, yet if he made notes none have survived either in print or manuscript. Sir Samuel Garth wrote little on medicine. The medical writings of Arbuthnot, though worth reading, contain no clinical notes, but those of his contemporary Dr. John Freind are among the best of his period. The numerous cases in his nine commentaries on fever, in his "Epistola de Purgantibus" and in his Emmenologia are admirably related and often with many details. The form in which he records his cases is modelled upon that of the Hippocratic writings, yet is free from any trace of archaism. The writings of Mead contain occasional reminiscences of cases but no real notes of them, and it is, I think, obvious from the character of his "Medical Precepts and Cautions" that he had made very few clinical notes. Sir John Floyer's book, "The Physician's Pulse-Watch," published in 1707, tended to make physicians count the pulse, a proceeding not only useful in itself but tending to encourage observation of the patient. Clinical observation was firmly established in England at the beginning of the eighteenth century as essential in the practice of medicine and physicians became more and more addicted to it. Its perfection in precision is reached in the "Commentarii Morborum Historia et Curatione," of Dr. William Heberden published in 1802, the last important medical treatise in England which appeared in Latin. Dr. Heberden lectured at Cambridge on medicine, where he was a Fellow of St. John's College, before he settled in London in 1748. Some manuscript notes of his lectures made by Dr. Erasmus Darwin, who attended them, show that he was a great reader, while his commentaries demonstrate the accuracy with which he pursued clinical medicine. He mentions in his introductory lecture 56 writers on medicine with whose books he advises students to become familiar. He had a systematic method of recording and using his clinical observations. His custom was to make notes as far as circumstances allowed in the sick room of what he saw and what he was told. He read through these notes every month and wrote into a sort of medical commonplace book under the heads of diseases whatever seemed to him worth preserving. From the notes contained in this book, when he was 72 years of age, he wrote his single volume of commentaries on the history and cure of diseases. He intrusted the manuscript to his second son and desired that it should not be published during his lifetime. He died when more than 90 years old, in 1801, and the book was then published by this son, himself a physician of repute. Nearly the whole of this remarkable book is of permanent value, so closely has Heberden recorded the sum of many precise clinical observations. Increased observations have no doubt added much to the knowledge of the diseases he has described, but in very few instances has it depreciated the value of his statements. The book is so simple in style that it is only after it has been read several times that its originality is fully perceived. Heberden owes nothing to any other writer. He does not attempt such wide generalisations as Sydenham and his sole object seems to have been to make the experience of his long life as useful as possible to future physicians. Except that the pulse was counted the method of examining a patient in the time of Heberden scarcely differed from that of Galen in the reign of Marcus Aurelius Antoninus. Auscultation, the ophthalmoscope, the laryngoscope, electrical and other methods of examination of the nervous system, the minute examination of the blood—all these additions to the fulness of observation, besides the results which they yield, have also tended to make general clinical examination more thorough and better carried out because they detain the observer near the patient.

As the practice of precise observation has become more general the importance of the regular keeping of notes of patients in hospitals has been recognised. Dr. A. J. G. Marcet, an exact writer, in his "Essay on the Chemical History and Medical Treatment of Calculous Disorders," published in 1817, mentions that no great London hospital then kept any regular record of cases. Such records are now, I believe, carefully kept in nearly all the hospitals of London. Sydenham, who had studied the works of Ray, felt the charm of the precision to which botanists attained in their descriptions and classification—even in the state of botany before Linnæus—and longed for a similar exact definition in medicine. In the preface of his "Observationes Medicæ" there are several passages which show how much he had contemplated the methods of botany with a view to applying them to medicine. "First of all," he says, "it is desirable that all diseases should be reduced to certain and well-defined species with the same diligence and exactness we see used by botanists in their plant books." It is clear that botany had an influence upon this most famous of English medical observers and that its study stimulated him to be laborious and exact in his observations of disease.

The general growth of the study of natural history and the devotion of some excellent physicians to one or other branch of it had much effect in improving the general observation of diseases. The minute annotation of the growth and structure

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[1] This abstract contains the substance of the lectures which by the terms of foundation must be published in full as a separate book.
[2] Lecture I. was published in THE LANCET of Nov. 17th, 1906, p. 1325.

of plants and of the life of animals cultivated in the observer a habit which caused him to study the effects and progress and treatment of disease according to the methods of natural history. The influence of botanical and zoological studies confirmed and enlarged the method of clinical note-taking already established and thus most observers became more precise and more observers were to be found. Dr. James Douglas is a good example of this relation of the study of natural science to that of medicine. He was the first to demonstrate exactly the relations of the peritoneum to the viscera and wrote several excellent papers of observations in morbid anatomy. He published a folio volume on Lilium Sarniense in 1725 and another folio on the coffee plant[3] in 1727, besides papers in the Philosophical Transactions on the flower of Crocus autumnalis and other botanical subjects. His "Myographiæ Comparatæ Specimen," printed in 1707, shows an extensive knowledge of comparative anatomy, and his "Bibliographiæ Anatomicæ Specimen"[4] gives a concise and accurate account of all anatomical writers from Hippocrates to Harvey. He cared also for literature and published in 1739 a text of the first ode of Horace and a catalogue of all the editions of the poet which were in his library, a long series even from the editio princeps of 1476 to 1739, for that learned historian Mr. Richard Copley Christie, who also had a collection of copies of Horace, used to say that the printed editions were sufficient in number to provide one for each year from the Augustan age to our own time.

Douglas became a Fellow of our College in 1721 and his discoveries, extensive learning, and industrious life deserve to be better remembered than they are. Even a man so learned in his own department of practice as the late Dr. Matthews Duncan did not know after whom the fold of Douglas was named. Douglas used sometimes to go round the wards of St. Bartholomew's Hospital and there made an observation which, pursued a little further, would have placed him among the great discoverers in clinical medicine. He published his observation in the Philosophical Transactions for 1715. The case was one of hypertrophy of the heart with adherent pericardium, mitral and aortic valvular disease. "I lately opened," he says, "a young man in St. Bartholomew's Hospital that died of the palpitation of the heart, whose violent beating and prodigious subsultory motion for some months before his death was not only easily felt by laying the hand on the region of the heart, but seen to rise and fall by raising the bedcloaths that covered it, and which is almost incredible, sometimes the trembling and throbbing made such a noise in his breast as plainly could be heard at some distance from his bedside." Douglas then describes the adherent pericardium and the disease of the mitral and of the aortic valves. The loud noise was probably that rare physical sign of which I have met with a few examples[5] in the wards and out-patients' room at St. Bartholomew's, a systolic murmur of aortic obstruction loud enough to be heard without touching the patient or even stooping over him. How closely did Douglas come to discovering the cause of cardiac murmurs.

Dr. Edward Tyson, who was elected a Fellow here in 1683 and whose portrait hangs in our hall, was the first man in England who wrote monographs on the structure of particular animals. He described from his own dissections the anatomy of the chimpanzee, the musk hog, the porpoise, the Virginian opossum, the rattlesnake, the embryo shark, the lump fish, the tapeworm, and the round worm. Tyson's medical writings, which are to be found in the "Acta Medica" of Thomas Bartholinus and in the Philosophical Transactions, are accurate accounts of remarkable cases, two of them of illnesses in dogs. A case of a plasterer who died from changes in his lungs due to inhaling some nails which he was holding in his mouth[6] is also recorded by Morton.[7] They saw the case together and it is interesting to discover that while Tyson's note was clearly written down at the time Morton's has some of the dimness of a recollection as distinct from an immediate record.

Sir Hans Sloane, President of this College from 1719 to 1735 and of the Royal Society from 1727 to 1741, was an excellent naturalist and is the founder of the great national collections known as the British Museum. He was born at Killileagh, county Down, in 1660, studied medicine at Paris and Montpelier, and graduated M.D. in the University of Orange in 1683. After his return he lived for a time with Sydenham. In early life he had enjoyed the study of plants and his reading had made him wish some time to see the plants and animals of the West Indies. This inclination remained after he had began practice in London and become a Fellow of the College of Physicians and of the Royal Society. The opportunity of gratifying this wish came in 1687, when he was offered the appointment of physician to the Duke of Albemarle, then going out as supreme commander in Jamaica. Sloane perhaps hesitated for a moment as to whether it was right to interrupt his practice as a physician in London, but, remembering that the ancient physicians travelled to the regions whence came particular drugs, satisfied himself that it might be useful as well as pleasant to visit the West Indies and accepted the appointment. He stayed in the West Indies for 15 months and made many observations in natural history and a collection of 800 species of plants. He studied the zoology as well as the botany of Jamaica, dried plants, and employed an artist to make drawings of birds and plants. Sloane showed some of his plants to his fellow countryman, Sir Arthur Rawdon of Moira in the county Down, who sent a gardener to collect examples in the West Indies and afterwards gave Sloane several further species, so that in 1696 he was able to publish a catalogue of the plants of Jamaica in which each plant is described, its locality mentioned, and many references given to the writings of botanists on the species. The book is dedicated to the Royal Society and to this College and received the imprimatur of our President, Dr. Collins, and the Censors. Sloane, on his return, became involved in a great professional practice and in various official duties and thus the publication of the large book which he had planned on the Natural History of Jamaica was long delayed. His West Indian collections and journals were the materials and he consulted Ray as to its best arrangement. The first folio volume appeared in 1707, and the second in 1725, of "A Voyage to the Islands of Madera, Barbados, Nieves, St. Christopher, and Jamaica, with the Natural History of the last of those Islands." It is a work full of original observation on men, animals, and plants. Even the music of the African inhabitants is noted. He records many cases of various diseases from notes made at the time which show that he was as a medical observer worthy of the friendship which he had enjoyed with Sydenham.

The collections of Sloane were not only of objects of natural history. Besides antiquities, medals, coins, crystals, vessels of agate, cameos, seals, and gems, his bequest from which the British Museum was formed included more than 40,000 volumes printed or in manuscript. A complete catalogue of the manuscripts was only finished in 1904. It is the work of Dr. Edward J. L. Scott, formerly head of the department of manuscripts in the Museum. The collection includes more than 3700 manuscripts and to have brought so complex a work to a conclusion within a reasonable time is a public service of great importance, useful to students of many kinds. As regards medicine the collection contains vast materials for the history of English medicine. Here are the holograph volumes of Harvey's Prælectiones Anatomicæ of 1616 and of his scarcely less interesting "De Musculis" of 1627. The manuscripts of Mayerne I have described in my first lecture. Twelve closely written volumes of lectures, notes, and philosophical and medical collectanea, mostly if not entirely in the small and rather difficult handwriting of Glisson, are there and so are the commonplace books of Sir Thomas Browne, as well as his "Miscellanies," "Observations on Plants," and other papers in his own hand; and the medical note-books and many other notes of his son, Dr. Edward Browne. There are letters of nearly all the famous physicians of England of the seventeenth century and of the eighteenth century up to the time of Sloane. There is the little filled note-book of Dr. Nathaniel Hodges, the recollection of whose death in a debtors' prison after his heroic conduct during the plague of 1666 brought tears to the eyes of Dr. Johnson, and there is the manuscript book which Francis Bernard, who also scorned to flee from the plague, used to take round the wards of St. Bartholomew's. There is the original manuscript of the Latin poems of Raphael Thorius, who died from the plague in 1622, and of the "Anatomia Restaurata" of Highmore of the antrum. There are many notes of cases sent up for the

[3] Arbor Yemensis Fructum Cofé Ferens, London, 1727.
[4] London, 1715.
[5] St. Bartholomew's Hospital Reports, vol. xxvi.
[6] Tyson in Acta Medica et Philosophica Hafniensia Bartholini, v. 91, Hafniæ, 1680.
[7] Opera Medica, Phthisiologia, p. 105, Genevæ, 1696.

opinions of physicians and some accounts of post-mortem examinations. There are letters to Sloane himself from physicians and surgeons and apothecaries and patients, from men of science, from great men in the State and in the world of letters, and from people in need of help, such as Mr. Samuel Boyce, a distressed poet, who writes: "You were pleased to give my wife the enclosed shilling last night. I doubt not but you thought it a good one but as it happened otherwise you will forgive the trouble occasioned by the mistake!"[8] The collection of manuscripts is a rich mine of medical and literary information and interest. Tyson and Douglas and Sloane were physicians whose cultivation of natural history undoubtedly had a general effect in improving by example in observation the study of clinical medicine in England. The repeated observations and the careful note-taking of naturalists were seen to be essential for the acquirement and for the increase of knowledge in medicine.

Sir Thomas Molyneux, a physician, who occupied in Ireland a position in the world of medicine like that to which Sir Hans Sloane attained in England, was, like him, an ardent student of natural history. Molyneux was the great grandson of another Sir Thomas Molyneux, a subject of Queen Mary Tudor, who left his home in Calais when it was taken from the English by the Duke of Guise in 1558, and afterwards settled in Ireland, where in 1590 he became Chancellor of the Exchequer. The physician was born in Dublin in 1661 and graduated there at Trinity College, to the foundation of which his ancestor was one of the contributors. In 1683, when a Bachelor of Physic, he went to Leyden to continue his medical studies, and his letters[9] give an interesting account of his adventures by the way and of his stay in Holland. He stayed in London and its neighbourhood from May 12th to July 20th and fell into excellent company while there. The first man of science he saw was Nehemiah Grew, the botanist, a Fellow of this College and the first great discoverer in vegetable physiology, who gave him much useful information about Holland. He next visited the Duke of Ormond, who had obtained its first charter for the Irish College of Physicians in 1667, and there met Thomas Burnet the geologist, who was tutor to Ormond's grandson. He went to the house of Robert Boyle and there met Sir William Petty, the first English political economist, a Fellow of our College. He saw Newton and Tyson and Evelyn at a meeting of the Royal Society, and came to know Flamsteed the astronomer. He also met Dr. Edward Browne, who told him that Sir Thomas Browne's "De Plantis Sacræ Scripturæ" was about to be published. Having enjoyed the acquaintance of these heads of the world of science he was in June no less fortunate in the world of letters, for he met Dryden, then its acknowledged head. He does not say where this took place but it was very likely at the house of Ormond, who delighted in Dryden's society. Molyneux visited Cambridge and seems to have gone into every college, to have looked at Oliver Cromwell's rooms at Sidney, to have seen Henry More the Platonist at Christ's, to have noted the growth of saffron in the district, and the fact that grey-backed crows, common in Ireland but rare in England, were to be seen in Cambridgeshire. He afterwards went to Oxford where he found the professor of physic lecturing on the first Aphorism of Hippocrates and on the shortness of man's life since the Flood and its length before. After ten weeks thus happily spent he reached Holland and soon after settled down to work at the University of Leyden. A few months later he met Locke there and they became friends and correspondents, and the friendship of Locke afterwards extended to William Molyneux, his brother, and it was at this brother's instance that Locke printed his treatise "On Education." He returned to Dublin in 1687 and took his M.D. degree. When the Irish College of Physicians was reconstituted in December, 1692, he was named as one of the Fellows in the charter. Molyneux rapidly attained considerable practice and became President of the King's and Queen's College of Physicians in 1702. He published in the Philosophical Transactions an account of the anatomy of the sea mouse, the iridescent hairs of which he noticed on opening the stomach of a cod-fish. His also was the first accurate description of the skeleton of the Irish elk in "A Discourse concerning the Large Horns frequently found Underground in Ireland." He published notes on the Giants' Causeway which are remarkable for their demonstration of the then new notion that it was a work of nature and not of man, and a paper in the form of a letter[10] to the Bishop of Clogher on certain swarms of scarabeus arboreus which appeared in the West of Ireland in 1688 and continued till 1697. His medical writings are observations on conditions of his own time, on an epidemic of coughs and colds,[11] and on an epidemic of eye disease.[12] He died in 1733 and there is a fine statue of him by Roubiliac over his tomb at Armagh. He was the first great physician in Ireland and in his excellence both in medicine and natural science and in the obvious effect of his natural history studies upon his medical work resembled Sir Hans Sloane. The venerable hill on which is the last resting-place of Molyneux is a short day's journey from the birthplace of Sloane.

Dr. John Stearne, who became a senior Fellow of Trinity College the year before Molyneux was born, was one of the 14 original Fellows of the Irish College of Physicians, was the chief physician in Ireland at the period of the Restoration, and a man of great learning, but no medical writings of his have been preserved.

Dr. Richard Helsham, Regius professor of physic in the University of Dublin in 1733, an intimate friend of Swift, is addressed by Arbuthnot in a way which shows that he must have been a physician of the same kind as Arbuthnot himself, but he also has left no medical writings from which his attainments in clinical medicine might be estimated. It is indeed difficult to collect much evidence of the regular study of clinical medicine in Ireland at any period before the influence of the Edinburgh school began to be felt there.

The object of my lectures has been to make clear the growth of clinical study in the British Islands from its commencement to the time when it was fully established as an essential part of the work of all who pursue any part of medicine: yet, having described the attainments of Molyneux, who is certainly the first great figure in medicine in Ireland, I will venture to pause in the pursuit of the particular subject of my lectures to consider what was the earlier state of medical learning there. The history of learning in Ireland, including our branch of it, is naturally divided into two parts. One part is mediæval and all its literature is in Irish or in Latin; the other part is modern and, except a few Latin books, is wholly in English. The books of the latter period form a valuable part of English literature and English science. The mediæval literature may be said to have begun with the introduction of writing into Ireland from Italy in the fifth century and to have lasted as long as Irish books continued to be produced and to circulate in manuscript only—a condition which lasted till about the end of the first half of the nineteenth century. This literature was in a language which, though it underwent progressive changes, was never, like Anglo-Saxon, permeated by other tongues so as to lose its identity. A large part of its vocabulary, its syntax, and many of its grammatical forms remained unchanged. The Irish never became a printed literature and circulated or was preserved in libraries altogether in manuscripts of varying kinds, some large bibliothecæ containing many varieties of composition, others containing particular treatises only. It thus presents us at the present day with a preserved specimen of a literature unaffected by the printing press and enables the student to observe all the peculiarities and incidents of literature before the invention of printing.

The earliest mention in this interesting literature of our profession is perhaps a gloss in a manuscript now in the library of Karlsruhe of Bede's treatise, "De Ratione Temporum," which belongs to the end of the eighth or beginning of the ninth century. On folio 35A of this venerable manuscript the word "archiater" is glossed by the Irish word *huasalliaig*—that is, *huasal* noble, and *liaig* physician. Both words are found throughout literature during the thousand years which have elapsed since some Irishman in the monastery of Reichenau wrote these glosses. A hero who appears in ancient stories and poems is described as a physician. In a treatise called Dinnshenchus,[13] or Hill Lore, of which there is a copy in a twelfth century MS., the name of a mythological person, a sort of Irish Machaon, occurs, and also in another manuscript, the Coir Anmann, "Fitness of Names."[14] "Diancecht i. ainm suithe leigis Eirenn"—Diancecht, that

[8] Sloane, 4033 B.

[9] Printed in the Dublin University Magazine, vol. xviii.

[10] Published in "A Natural History of Ireland," by Several Hands, Dublin, 1726.

[11] On the Late Coughs and Colds: Philosophical Transactions, 1694.

[12] Notes on an Epidemic of Eye Disease which occurred at Castletown, Delvin, Co. Westmeath, 1701.

[13] S. H. O'Grady: Silva Gadelica. London, 1892, II., 525.

[14] Whitley Stokes in Irische Texte mit Übersetzungen und Wörterbuch, Dritte Serie, 2 Heft, Leipsic, 1897.

is the name of the learned man of physic of Ireland. In the laws with commentaries known as the Senchus Mor a physician and medical treatment are mentioned in the part which treats of distress. The levy of distress was the remedy for a great variety of wrongs. The person who had been wronged and desired to obtain justice came to the residence of the wrongdoer and sat fasting by his door. This was a sort of notice and if no food was offered and the fasting terminated at its due period the distress claimed became greater. If the wrongdoer gave security then the cause was in time tried by a judge. Five days' notice with one day's fasting was to be given in a variety of cases which are enumerated, amongst them "for providing him (the sick man) a physician"[15] and "for guarding against the things prohibited by the physician." The guarding against things prohibited by the physician shows a respect to his opinion. It is further dwelt upon in a later part of the commentary. "For guarding against the things prohibited by the physician, i.e., that the sick man may not be injured, i.e., by women or dogs, i.e., that fools or female scolds be not let into the house to him, i.e., or that he may not be injured by forbidden food."[16] The physician was to give notice that this care should be taken. "If the physician has given notice," says the commentary, "he is safe. If he has not given notice he is subject to fine, i.e., he is fined a young heifer, and this is divided in two between the aggressor (disturber) and the wounded man. If notice has been given by the physician then the aggressor pays the heifer to the wounded man and the physician for his skill receives one-third of the fine." In a summary of the occasions of exemption from distress occurs "a man going to obtain a physician for a person on the point of death."[17] In another passage in the ancient legal treatise called Senchus Mor, under the heading "What is the distress of each sort of men of art," there is the statement, "The distraint of a physician, let his horsewhip or his wand be taken. If he has not a complete equipment let a thread be tied about the finger next his little finger."[18] The object of the peculiar distraint was probably to shame the physician into the discharge of what was claimed from him.[19] There are some clauses difficult from their brevity which apply to what we should call actions for malpraxis. An impartial physician is to say whether the bleeding was rightly used and the practice good or bad.[20]

In the Irish Chronicles physicians are mentioned from time to time and many passages make it clear that, like law and literature, medicine was hereditary in particular families. There were many families who possessed lands in right of their profession. Some were hereditary keepers of a shrine, of a saint's bell, or of an ancient book. Of such a kind were the O'Breslans, who long kept in Donegal the bell of St. Connla Cael, now in the British Museum. Others were hereditary judges such as the MacAedhagains, of whom from the thirteenth century to the sixteenth 27 judges or legal authorities are mentioned in the chronicles. Others were hereditary chroniclers, poets, or public orators, such as the Maic Conmidhe, whose first works occur in the middle of the thirteenth century and whose last representatives still lived near their ancient inheritance at the beginning of the nineteenth century; or the famous race of O'Dalaigh, of whom more than 80 are said to have been known as poets.

These legal, historical, or medical families appear in the chronicles about the beginning of the thirteenth century, and many of them still held their lands in the sixteenth century, and some of their later descendants were to be found in their original districts in the nineteenth century, though both they and their patrons, the more powerful chiefs, had long been dispossessed. In the province of Ulster the family of MacDuinntshleibhe were hereditary physicians. They were attached to the family of O'Donnell and held lands in Kilmacrenan, the original territory of the Cinel Luidhech, or O'Donnells, who gradually conquered nearly the whole of Donegal. The MacDuinntshleibhes had been driven out of Down by John de Courcy the Norman and settled in the west of Ulster. Muiris, who died in 1395, Donnchadh, who died in 1526, and Eoghan his son, who died in 1586, are other members of this medical clan whose names have been preserved.[21] One of the family translated Gualterus on the doses of decoctions into Irish and his manuscript is in the British Museum (Harlev, 546). On p. 11A is the author's own note of his work. "Here ends Gualterus' book of the doses of medicines. Cormac MacDuinntshleibhe has put this summary into Irish for Dermot MacDonall O'Line and to him and his sons may so profitable a commentary render good service. On the fourth day of the kalends of April this lecture was finished at Cloyne in the year 1459." Other members of the family seem to have followed literature, for Maurice Ulltach who attested the authenticity of the chronicles used by Michael O'Clery and his colleagues in the compilation of their great book of annals, and Christopher Ulltach, guardian of the Franciscan convent of Donegal in 1636, were of the same race. Ulltach means an Ulsterman and was used for the MaicDuinntshleibhe because they had been chiefs of Down, the southern half of the region called Ulidia by Irish Latin writers, and into which the most ancient kings of Ulster had been driven, and which they ruled till turned out by the Normans. The family were dispossessed at the plantation of Ulster in the reign of James I. In a later generation, 1745, one of them published in Paris a long Catechism in Irish of some literary merit. Some of the race still lived in my boyhood as tenants on the lands which they anciently owned. Part of another manuscript (Arundel 333) shows that Cormac had taken a degree, probably in some university of France. It contains the note: "Here ends this summary and treatise upon the organs of animals from Isaac 'In dietis particularibus.' Cormac MacDuinntshleibhe, bachelor of physic, put it into Irish and wrote it for Denis O'Eachoidhern on this parchment. And let each one whom it shall profit pray for those two." Cormac also wrote in the same bibliotheca two Aristotelian disquisitions and a small section on plants, and a short treatise on the virtues of gems, a subject often treated in the medical books of the Middle Ages.

Nial O'Glacan, a physician who became professor of medicine in the University of Toulouse in the reign of Charles I., was born in Donegal and from a remark in his "Tractatus de Peste," published at Toulouse in 1629, it may be inferred that he received a medical education from one of the families of hereditary physicians and perhaps from the MaicDuinntshleibhe. He was appointed physician to the king of France and in 1646 migrated to Bologna, where in 1655 he published a "Cursus medicus," including six books on physiology, three on pathology, and four entitled Semeiotica. It is a galenical work without any cases or additions of modern ideas.

The O'Callannans were the hereditary physicians of MacCarthy riabhagh, one of the great chiefs of the south of Munster. Aonghus O'Callannan and Nicholas O'Hicidhe wrote in 1403 a version with commentary of the Aphorisms of Hippocrates, of which a small fragment is preserved. Dr. Standish Hayes O'Grady, in his admirable catalogue of the Irish manuscripts in the British Museum, has suggested that this physician was probably the man in whose beautiful handwriting is written a treatise entitled "Suidigud telliguh Temrach," the arrangement of the hearth of Tara, which occurs in the noble manuscript called the Book of Lismore, from its having been found walled up in the castle of Lismore. The colophon of the treatise is: Angus O'Callannan has written this for MacCarthy, that is Finghin, son of Dermot, and a blessing go with it to him.[22]

The UiHicidhe or O'Hickeys, of which family this Nicholas was one, were hereditary physicians of the Dal Cais, the group of allied clans who owned the northern part of Munster, long known as Thomond and now as the county Clare. In the British Museum there is a fine vellum manuscript which belonged to a member of this family. The manuscript contains a record of the date at which it was written.[23] "The year of the Lord when this book was written 1482, and that was the year when Philip son of Thomas Barry slew Philip son of Richard Barry." And another note shows that it was still in the possession of its original scribe in 1489.[24] "I grieve for this news I hear now: that my mother and my sister are dead in Spain.

[15] Hitairec a lega, Ancient Laws of Ireland, Senchus Mor, vol. i., p. 122, line 15; and Im Dingbail aureuilte a reir lega, line 17. Dublin, 1865.

[16] Ancient Laws of Ireland, Senchus Mor, vol. i., p. 130. Dublin, 1865.

[17] Diomtar turbuid no lega do neoch biss fri bas, Senchus Mor i., 266, and Harley MS. 432.

[18] Caicli aithgaball cach aes dana, S.M., iv., 118.

[19] A'thgaball lega: togthar an echlaisc ocus a fraig, Senchus Mor iv., 118.

[20] Ancient Laws of Ireland, book of Aicill, p. 477.

[21] Annals of the Four Masters, iv., 742, v., 1389, v., 1856. (Ed. O'Donovan.)

[22] Aonghus o Callanain do scribh so do Mag Carthaighi Finghin mac Diarmada ocus bennacht leis do.

[23] Folio 92.

[24] Folio 95.

A.D. 1489." A third note[25] records its sale to Gerald Earl of Kildare, Lord Justice of Ireland from 1478 to 1513. "A prayer for Gerald the Earl, Justice of Ireland, that bought this book for twenty cattle. Two and twenty folded skins are in this book. The rent of East Munster six score kine just come in to the Earl on the day when this computation was written. Thomas O'Mailconaire levied that rent for the earl. This year in which I am is the year of grace one thousand and five hundred years, the age of the Heavenly Lord at this time—all which above stated is true." In the fifteenth century money was hardly in use in Ireland outside the seaboard towns and this earl, the greatest man of the Norman Irish, paid in cattle for this fine manuscript. It is a translation of some literary merit of the Lilium Medicinæ of Bernard de Gordon, a writer of the early part of the fourteenth century and of the school of Montpelier, who was widely read and has been translated into several European languages. Thomas O'Hicidhe wrote a treatise on the Calendar (Cotton, Appendix LI.) in 1589. I remember seeing in Belfast many years ago a fine early fifteenth-century manuscript on medicine in the hand of one of the O'Hickeys.[26]

Some manuscripts of the family of O'Liaigh, another race of hereditary physicians in Thomond, are preserved, and are, as I am told by Mr. S. H. O'Grady who has examined them, of the same kind as those of Cormac Mac Duinntshleibhe. Another medical clan was O'Caiside. They were the hereditary physicians of MacUidhir Finghin O'Caiside, who died in 1322; Gilla na naingel, who died in 1335; Tadhg, who died in 1450; Feoiris, who died in 1504; and Feidhlimidh, who died in 1520, are mentioned as professors of medicine (*ollam leighis*). All these hereditary physicians, of course, read some books of Salernum, or of the Arabs, or Bernard de Gordon. I have not met with any fragment of Mirfeld in those of their manuscripts which I have examined, but they knew John of Gaddesden.

The hereditary physicians of Ireland had brethren in Scotland.[27] In early times all the literary associations of Alba, as Scotland is still called by her Celtic inhabitants and neighbours, were with Ireland, and the name Scotland is itself a proof that the language, customs, and social institutions of the country appeared to its neighbours to be identical with those of the inhabitants of Ireland, the Scoti. Most of the families who could trace their ancestry far into the past traced it to some branch of the half historic, half mythological family tree of the Irish, the clan of Miledh, the descendant of Gaedhel Glas. Temhair, now called Tara, was for them the greatest seat of royal splendour, where King Cormac mac Airt had ruled, surrounded by the most redoubted champions and with vast herds of cattle grazing on fertile plains as far as the eye could reach. The prose and the verse of the Dinnshenchus and the Agallamh na Senórach, which under the guise of a narrative of fact clothed so many mountains, plains, rivers, and lakes with romance, were known to them, and they had heard the solemn but often obscure and involved verses of the Amhra in which Dallan Forgaill had celebrated Columba. The kings of Scotland, though they came to be by descent, residence, and language associated with the southern part of their subjects, yet liked to preserve the tradition of connexion with the remote generations of the race of Gaedhel Glas. At the Scottish coronation of Charles I. it is said, but on what authority I do not know, that some part of the ancient Gaelic phrases of installation were used for the last time.

When James I. came to England he brought with him a physician who seems likely to have belonged to a famous clan of hereditary physicians in the Highlands, Dr. David Betthun. On August 20th, 1624, Mayerne[28] drew up a long paper on the use of remedies for the treatment of King James and of Charles, then Prince of Wales, and this is addressed by him as Regis Medicus Primarius to the other five royal physicians, Dr. Henry Atkins, Dr. J. Chambers, Dr. Jo. Craig, Dr. Matthew Lister, and Dr. David Betthun. Dr. Betthun had taken a degree at Padua. The transition from acquiring knowledge as a member of a family in which some branch of learning was hereditary to its acquirement in a college or university is to be observed here and there. Thus Tadhg an tshleibhe, one of the hereditary historians of Tirconnell, having become a Franciscan of the convent of Donegal, collected the Irish chronicles as a regular historian with other hereditary historians into the great book commonly known as the Annals of the Four Masters, and Cormac Mac Duinntshleibhe of the hereditary physicians of Kilmacrenan at the end of the fifteenth century had taken the degree of Bachelor of Physic,[29] probably in some French University. David Betthun, if my surmise about him be correct, in addition to the medicine which he inherited from the Isles, where his family were hereditary physicians, had graduated at Padua. David became a Fellow of our College and may be regarded as the sole connecting link between the mediæval hereditary physicians of Eire and Alba and the medicine of the Renaissance.

A manuscript in the British Museum[30] belonged in the sixteenth century to John MacBetha, or Beton, one of this race of physicians. It was written for him by two Irish scribes, Dáibhí O'Cearnaigh and Cairbre. A note (folio 29 b) shows that its production was not unattended by difficulties: "There from me to thee oh! John and as I think indeed it is not too good and no wonder that for I am ever on the move flying before certain English up and down Niall's wood and in that very wood I have written a part of it and prepared the skin. I am Cairbre." The colophon gives the date. "There is the end of this book for thee John Beton (MacBetha) by David O'Cernaigh and the three virtues and graces go with it to thee. And the age of the Lord when this book was written was one thousand five hundred three score and three years." Some other pages of the manuscript are in the hand of a James Beton and there are five memoranda in his hand on folio 61. In one written at Sleat in Scotland in 1588 he gives his genealogy for ten generations. Another ends: "That is enough for this day, Saturday; seeing that the woman of this house is very ill, the daughter of MacDubbgall, son of Ranald. I am James Beton and great is my sadness to-day for as Galen says Medicus et imitator naturæ the physician is but the imitator of Nature." The manuscript begins with a piece from John of Gaddesden and also contains a fragment of a mediæval composition: "Hippocratis Capsula eburnea," and of excerpta from Gaddesden, Bernard de Gordon, and Platsarius of Salernum. The names of Gerardus Cremonensis, Avicenna, Serapion, Rogerius of Parma, Arnaldus, and Bruno occur in some other passages. There are also a section on Materia Medica, and one from Galen on the Humours, an abstract of the Liber urinarum Theophili and numerous shorter paragraphs. I published in 1874 in the St. Bartholomew's Hospital Reports an account of this and of the other eight manuscripts on medicine in the Irish language in the British Museum and a much fuller and more learned analysis of all their contents has since been printed by Mr. Standish Hayes O'Grady in his Catalogue of the Irish MSS. in the British Museum, a work of extraordinary learning which reflects the greatest credit not only on its writer but also upon the authorities of the Museum, who have seen that in so recondite a subject a description of the manuscripts with copious extracts from them would be the most useful form of catalogue. The physicians who studied books on medicine in the Irish language, whether in Ireland or Scotland, all belonged to the same school of medicine as the doctor of physick in Chaucer. I am glad for the sake of the continuity of history that one of the race became a Fellow of this College.

On the eastern and southern and the extreme northern bounds of this Celtic nation of Scotland, Teutonic and Scandinavian lords and their followers steadily encroached. They became the dominant part of the State and their Teutonic language developed a fine literature of its own. Their natural foes from the geographical situation of their country were their kinsmen the English and they lived in a relation of social hostility and of varying degrees of political alliance with the inhabitants of the mountains and of the Western Isles. They looked for friends to France and to the Low Countries. Many circumstances tended to prolong this friendship after the circumstances of its origin no longer existed. The medicine which made the University of Edinburgh famous throughout the world was derived from

[25] Folio 192b.

[26] It then belonged to Mr. R. Macadam and afterwards became the property of Bishop Reeves.

[27] And no doubt in Wales, as shown in "The Physicians of Myddvai," translated by John Pughe, F.R.C.S., and edited by the Rev. John Williams ap Ithel. Welsh MSS. Society, Llandovery, 1861.

[28] Opera, p. 288.

[29] Arundel 333, in British Museum, f. 113 b.: "Tairnic an sin suim ocus trachtad ball nainminteadh o ysac in dietis particularibus ocus cormac mac duinnleibe basiller a fisigecht do cuir a ngaigdeilg ocus do scrib do deinis o eachoidhern annsa cairtal he." "This treatise on the organs of animals is extracted from Isaac 'In dietis particularibus,' and Cormac Mac Donlevy, Bachelor of Physic, put it into Irish and wrote it for Denis O'Eachodern upon this parchment."

[30] Additional, 15,582.

Holland and from Edinburgh spread its influence not only in Scotland and Ireland but also in England, where clinical studies were already habitual among physicians.

The systematic teaching of medicine in the University of Edinburgh began at the end of the first quarter of the eighteenth century and was largely due to the example and exertions of Alexander Monro, the father of the anatomist after whom the cerebral foramen is named. He studied under Boerhaave at Leyden in 1718 and lectured on general anatomy and physiology, comparative anatomy and surgical operations in one comprehensive course lasting from October to May for 39 years from 1725. He edited in 1732 the first volume of the "Medical Essays and Observations published by a Society in Edinburgh." These essays were many of them dissertations on some particular subject, yet among them are sufficient clinical observations to show that the publication had the effect of encouraging clinical observations in Scotland and elsewhere. Dr. John Rutherford, another pupil of Boerhaave, who had also received instruction from Dr. James Douglas in London, gave in 1748 the first clinical lectures in Edinburgh. Rutherford's lectures, of which there is a manuscript volume in the library of the Royal Medical and Chirurgical Society, are good clinical descriptions of patients with comments upon their symptoms and the treatment. Similar lectures were given by his successors John Gregory in 1768 and William Cullen in 1769, but neither of these shows the same power of directing the attention of the student to what is to be seen in the patient. Robert Whytt gave clinical lectures at the Edinburgh Royal Infirmary in 1760 and his "Observations on the Nature, Causes, and Cure of those Disorders which are commonly called Nervous, Hypochondriac, or Hysteric," which appeared in 1764, contains many notes of the symptoms and daily progress of cases of nervous disease. He also had studied under Boerhaave.

The influence of Boerhaave on medical studies of all kinds at Edinburgh may be further understood from the fact that when Dr. John Fothergill, who took his M.D. degree in 1736, studied there his five teachers—Monro, Alston, Rutherford, Sinclair, and Plummer—had all been pupils of that illustrious Dutchman. The aphorisms of Boerhaave were first published in 1708 at Leyden. Their point, clearness, and comprehensiveness show upon how much clinical observation they were based. Men naturally flocked to Leyden to receive instruction from a teacher who knew so much and who could impart his knowledge in a style so easy to comprehend. No one who went was disappointed. The aphorisms were even translated into Arabic and from Constantinople to Dublin pupils of Boerhaave were to be found. The learned but never heavy commentary of Van Swieten added after Boerhaave's death to his influence, so that his floreat as a teacher of medicine lasted nearly a century. The clinical and the systematic medicine of Scotland were altogether derived from Boerhaave. Rutherford, Gregory and Cullen spread his fame with their own wherever the doctors they had taught went to dwell. Many were carried to Ireland, among them a pupil of Alexander Monro, Dr. George Cleghorn, whose "Observations on the Endemial Diseases of Minorca from the year 1744–49" shows a high degree of clinical observation. He lived in Minorca, then a British possession, from 1736 to 1749. He had noted the meteorology and collected the plants and animals of the island and had made systematic notes on the diseases of the natives and of the troops both as to symptoms and post-mortem appearances. He gives a clear account of cases of continued fever, of pneumonia, and of dysentery in men who already had tertain ague, and some of these seem certainly to have been examples of enteric fever, others perhaps of Mediterranean fever. It was widely read, for four editions appeared in his lifetime. He went to Dublin in 1751 and there remained for the rest of his life practising medicine and lecturing on general anatomy, of which he became professor in the university. He died in 1789.

Cleghorn when a student at Edinburgh formed a friendship with John Fothergill which lasted throughout his life. Both had a taste for botany and both cared for clinical medicine. Fothergill is perhaps an example of the spread of the influence of Boerhaave to England. He took his M.D. degree at Endinburgh in 1736 and in 1748 published "An Account of the Sore-throat attended with Ulcers." The book contains some clinical observations. He shows that the cases of malignant sore-throat which he describes are quite distinct from quinsy, but does not follow out the cases sufficiently in detail to establish their identity if they were identical or, if they were not, their differences. Some of them seem to have been examples of diphtheria and more of a form of scarlet fever. The work is good as far as it goes but the investigation is imperfect.

Dr. John Huxham is another example of the influence of Boerhaave in England on the study of clinical medicine. Huxham studied under the master at Leyden in 1715. His "Essay on Fevers" which appeared in 1755 contains many original observations. His treatise "On the Malignant Ulcerous Sore-throat," famous as it is, is not, in my opinion, so good an example of clinical observation as the work of Fothergill. It has the same fault of failing to distinguish between cases which we should call diphtheria and others which were probably scarlatina anginosa, but Huxham excels Fothergill in that he seems to have noticed that paralysis of the soft palate followed some of his cases of malignant ulcerous sore-throat.

These pupils or members of the school of Boerhaave seem to be more on the look-out for something startling or suitable for clinical demonstration than were the followers of Glisson and of Sydenham, who were content to make no selection but to observe every circumstance of an illness and by observing everything in many cases hoped to arrive at useful conclusions of general application. Yet the effect of the teaching of Boerhaave and of that of the University of Edinburgh which was derived from him was to increase the enthusiasm for clinical observations. The study of clinical medicine among English physicians originated in the learning of the Renaissance, while the origin of clinical study in Scotland is to be found in the teaching of Boerhaave. Such has been the history of the study of clinical medicine in the British Isles. Methods of clinical observation have been improved and elaborated since it has been fully established. Amidst the pursuit of the extensive sciences related to medicine it is for us, the physicians of to-day, to see that the precise observation of disease at the bedside is never displaced in teaching or in practice by other studies.

THE RECIPROCAL RELATIONS BETWEEN AFFECTIONS OF THE UTERUS AND ITS APPENDAGES AND THE REST OF THE BODY.[1]

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As far back as authentic history extends specialists were engaged in the practice of different departments of medicine. In ancient India a special group of surgeons were devoted to rhinoscopy, performing operations for improving deformed ears and noses, and forming new ones. Of the old Egyptians Herodotus writes: "Medicine is practised among them on a plan of separation; each physician treats a single disorder, and no more; thus the country swarms with medical practitioners, some undertaking to cure diseases of the eye, others of the head, others again of the teeth, others of the intestines, and some those which are not local." Their priest-physicians were pronounced specialists, and when a summons was received to the house of a patient the superintendent of the temple selected the practitioner best acquainted with the part affected. Similarly in ancient Rome along with the usual general practitioners there existed a large number of specialists of all kinds—doctors for the eyes, the teeth, the ears, and the diseases of women; rupture curers, wine, water, and milk doctors; not to mention wizards and exorcists who did not rank as medical men.

Much of the specialism thus practised in all ages has been of the narrowest kind, each department of medicine having not only its own peculiar methods of treatment but also its own particular pathology. Each set of practitioners ploughed a lonely furrow, taking no heed of the work and achievements of the other branches of medicine. By such means medical science never has been, nor ever will be, advanced. True specialism must be built upon a foundation of scientific principles common to the whole of medicine, and it is only by

[1] An address delivered to the Stourbridge Medical Society on Oct. 4th, 1906.

paying due attention to these principles and by studying them in relation to the local anatomical and physiological peculiarities of the organ or part of the body specialised upon that real progress in knowledge and in practice can be expected. The connexions between the whole animal body and every one of its constituent parts are so intimate that no part can be the seat of a lesion or departure from the normal without causing some change in the rest of the organism. The change may be too small to be appreciated by our coarse methods of investigation or may be so long in developing that the originating cause is lost sight of, but change in greater or less degree there always must be. In illustration of this great law I propose to glance briefly at some of the effects produced by diseases of the uterus and its appendages upon the rest of the body, and from the other point of view to consider the influence of general affections and of lesions of distant organs upon the female pelvic organs and their functions.

The intimate relations between the female sexual organs and the rest of the economy are easily recognised at puberty and the climacteric and in connexion with pregnancy and parturition. At the time of puberty the putting on of the bodily and mental qualities of the adult is accompanied by a rapid change in the appearance and functions of the ovaries and the uterus. When conception takes place the remarkable phenomena that follow are not confined solely to the pelvic organs and the breasts, but extend to the whole body and mind of the woman. The general nutrition is often profoundly modified. The subcutaneous fat is increased round the pelvis and on the nates, so that the hips become broader at the same time as the face often becomes thin. Pigment is deposited in the skin of the abdomen, the breasts, and frequently of the face. The characters of the blood are modified, the heart and kidneys, and probably also the liver, are hypertrophied, and the thyroid gland becomes enlarged. Not infrequently remarkable changes take place in the mental condition—a bright and lively woman becoming sad and despondent, or a dull and apathetic one becoming light-hearted and cheerful. When normal lactation takes place equally remarkable changes occur in the genital organs; the uterus passes into a condition of well-marked but temporary atrophy and the ovaries cease their function of periodically developing perfect ova. At the climacteric local atrophic changes begin to take place at the same time as the well-known general symptoms of that epoch, and after the menopause atrophy progressively and more or less rapidly increases with the woman's years until the pelvic organs become relatively insignificant.

The uterus and its appendages are brought into intimate relations with the rest of the economy by the nervous system and by the circulation of the blood and lymph. The nerve supply of the ovaries is abundant, branches passing to these organs along the ovarian arteries, and in part also along the ovarian branches of the uterine arteries. A large part of these nerves are intended for the vessels and for the muscular fibres, but sensory and reflex nerves are also undoubtedly present, since palpation of the ovary gives rise to a peculiar painful sensation, and may cause various reflex actions. The action of the nerve supply of the uterus is more easily studied in detail than that of the ovaries, and much knowledge has been acquired by experiments carried out chiefly on bitches. According to Gaskell three groups of efferent fibres pass to the uterus as to the other hollow muscular viscera, and govern the vascular muscles, the visceral muscles, and the glandular secretion respectively. These fibres are derived from the sympathetic system, mainly from the solar plexus which lies on the anterior wall of the abdominal aorta near its upper end, and from the hypogastric plexuses with which are connected branches from the second and third sacral nerves. The external genitals and perineum, the lower end of the vagina and urethra, have an abundant supply of spinal as well as of sympathetic nerves. Centres governing the generative organs exist in the base of the brain and in the lumbar portion of the spinal cord, and possibly also in the medulla. Electrical irritation of the centre in the brain causes contraction of the uterus. Stimulating or inhibitory impulses may be started in this centre by sounds, sights, or smells, or by psychical agencies. A shock or fright may prevent the onset of an expected menstrual period, or cause sudden stoppage of a period already commenced; in a pregnant woman a similar mental disturbance may determine the premature emptying of the uterus, while the arrival of the accoucheur is well known to be a common cause of temporary cessation of labour pains. A second centre probably exists in the medulla in near connexion with the respiratory and vaso-motor centres and with that for vomiting and retching. The influence of asphyxia in causing the pregnant uterus to empty itself is probably exerted upon this centre, which may also help to explain the vomiting of pregnancy. The best known centre is in the lumbar swelling of the cord and is sufficient of itself to control all the movements of the uterus; contractions occur regularly, even when the spinal cord has been completely divided above the centre, and in some cases of paraplegia labour has been observed to take place normally. From the lumbar centre periodical impulses pass to the uterus, giving rise to the intermittent contractions of pregnancy and the pains of labour. The action of the centre may be excited by stimuli from the medulla or from the brain, or reflexly through either the cerebro-spinal or sympathetic nerves. The influence of the spinal nerves is seen when the uterus is excited to contraction by the child's head or the accoucheur's hand in the vagina or by the child being put to the breast, or when a menstrual period is postponed or suddenly stopped by the exposure of the surface of the body generally to cold, or by the use of a cold vaginal or rectal injection. Reflex action through the sympathetic nerves may be set up by the presence of a dead fœtus in the uterus, the escape of the liquor amnii, by dilatation of the cervix, or by the separation of the membranes, as, for instance, by the passage of a bougie. The close and widespread nervous connexions of the uterus with the rest of the organism are also well seen in the effect of labour pains in causing acceleration of the pulse, rise in temperature, perspiration, rigors, vomiting, and sometimes hysteria and loss of mental control.

The close connexion that has always been believed to exist between the uterus and the nervous system is embodied in the term hysteria. In this affection and in many disorders of the mind derangements of menstruation are frequent, the commonest being more or less prolonged periods of amenorrhœa. Certain other neuroses have intimate relations with the condition and functions of the generative organs. The crises of migraine and of epilepsy in some patients occur only or chiefly at the menstrual periods. Asthma occasionally appears to depend upon some condition of the uterus or its appendages. Thus Peyer in a clinical lecture published by the New Sydenham Society in 1894 relates several cases in females of what he calls neurasthenic sexual asthma. In one case severe asthma was brought on by coitus; in another there was uterine catarrh and the attacks of asthma ceased during pregnancy; in a third hysterical and asthmatical attacks were associated with vaginismus, vaginitis, and catarrhal endometritis; and in a fourth severe case there was a uterine fibroid and the removal of a polypus was followed by the cure of the asthma. Of five female cases related in this paper only two had a hereditary nervous taint.

In exophthalmic goitre changes in the female sexual organs or their functions are frequent. Often one of the first symptoms of the affection is amenorrhœa, which may be prolonged. Atrophy of the genital organs has been observed in at least 15 cases (Theilhaber). The affection may improve or get well during pregnancy or the puerperium, but more frequently it becomes worse or makes its first appearance in these circumstances. Occasionally it has begun after an operation on the genital organs. I have observed the effects upon the generative functions or organs in eight cases of the disease.

CASE 1.—The patient, single, aged 22 years, had had symptoms of exophthalmic goitre for two years. The catamenia began at 14 and continued regular until the age of 20 years, when they ceased entirely. There were well-marked signs of atrophy of the vulva, vagina, and uterus similar to those normally seen in women some years after the natural menopause.

CASE 2.—The patient, single, was first seen at the age of 22 years. Symptoms of Graves's disease began at 19 years of age; in the course of the next five years the catamenia were scanty and infrequent and for two of these years there was no menstrual period at all; at the end of this time no sign was present of atrophy of the vulva or uterus, and the periods subsequently became re-established, at the same time as the symptoms of exophthalmic goitre became less marked.

CASE 3.—The patient, aged 20 years, single, had had severe symptoms for two years and there had only been one menstrual period in the last nine months.

CASE 4.—The patient was single and aged 30 years. The

first symptoms of the illness in this case was a sudden severe flooding without obvious cause and without recognisable changes in the uterus and its appendages.

CASE 5.—The patient was single and aged 26 years. Menorrhagia began three years before symptoms of exophthalmic goitre and had persisted along with symptoms of the latter disease for a further three years.

CASE 6.—The patient was married and aged 41 years. Symptoms began during the third pregnancy at the age of 37 years and there was no effect on menstruation.

CASE 7.—The patient, single, aged 44 years, had had symptoms for four years, and for the same time the periods had been regular but very scanty, only lasting one day.

CASE 8.—The patient, a IV-para, aged 39 years, had had a large mesenteric cyst removed by operation. 15 months later there were well-marked symptoms of exophthalmic goitre. Menstruation had ceased for five months after the operation and then became regular.

It appears that in only two out of the eight patients menstruation continued normal; in two there was menorrhagia; in the other four there was more or less prolonged amenorrhœa or marked scantiness of the flow, and in one of these there was premature atrophy of the whole of the sexual organs. One of the cases appeared to have commenced during a pregnancy and one followed on a severe abdominal operation. It appears, therefore, that exophthalmic goitre is frequently associated closely with abnormal conditions of the uterus and its appendages, but the exact relation between the two sets of phenomena is not known. In Raynaud's disease there does not appear to be a similarly frequent close relation between the general affection and the female pelvic organs, although among six patients, one a single woman, aged 24 years, had prolonged periods of amenorrhœa, one of these extending over two years, and a second had diminution of the catamenial losses.

Alterations in the vascular supply of the female pelvic organs may be set up by affections of distant organs, and conversely, primary changes in the pelvic organs may give rise to changes in distant organs through the medium of the circulation. In the case of valvular disease of the heart there has long been a widespread opinion that in failing compensation and consequent back pressure menorrhagia is the rule. Gow, however, investigated the relation of heart disease to menstruation in 50 cases, and found that in 28 menstruation was unaltered, and in 17 it was absent or scantier than before, while in only five was it more profuse or frequent. In many cases of mitral disease there is, no doubt, passive congestion of the uterus, which, however, appears more likely to lead to prolonged amenorrhœa than to menorrhagia, though in many cases menstruation continues unaltered. According to the same observer when conception takes place mitral disease appears greatly to increase the tendency to premature expulsion of the ovum. Certain pulmonary affections have a marked effect on the catamenial function. In the acute exacerbations of chronic branchitis it appears to be the rule that a persistent and sometimes profuse flow of blood from the uterus takes place. In pulmonary tuberculosis amenorrhœa is usual and a premature menopause is common; the diminution or arrest of menstruation in this disease appears usually to be due to the general condition of malnutrition, but in not a few instances is to be ascribed to simultaneous tuberculosis of the ovaries, tubes, or occasionally of the endometrium.

On the other hand, certain conditions of the generative organs appear to exert an influence on distant organs by disturbing the circulation. In pregnancy, for instance, not only are certain veins commonly made varicose as the result of pressure, but the whole arterial circulation is affected, as shown by alterations in the radial pulse and by the left side of the heart becoming hypertrophied. How far these changes are due to mechanical influences and how far to alterations in the constitution of the blood cannot be determined. In the case of uterine fibroids which attain a sufficient size and importance to enable their presence to be diagnosed functional and organic affections of the heart and circulatory system are found to coexist, according to the experience of several writers, including myself, in from 40 to 50 per cent. of the patients. The most frequent cardiac changes in these cases are brown induration and fatty degeneration. The heart appears to become affected in several different ways. In some instances valvular disease is present before the fibroid begins to grow, and in these compensation is very likely to be upset. Sometimes the fibroid attains an excessive size so as to impede the circulation by mechanical means; or the tumour may press upon the ureters and lead to renal degeneration with consecutive affection of the heart. In the great majority of the cases menorrhagia due to the presence of the fibroid tumour gives rise to severe and persistent anæmia and so to malnutrition and consequent degeneration of the cardiac walls. In a further group of cases disturbances of the circulation, such as irregular or intermittent action of the heart or by tachycardia, appear to be set up through the medium of the nervous system; these symptoms seem to be more frequent in cases where severe and often repeated pain is a prominent symptom of the uterine tumour. In a certain number of patients there is evidence of hypertrophy of the heart even when the uterine fibroid is of moderate size; in some of these there is reason to believe that the increased local circulation of blood in the tumour may be the cause of the cardiac hypertrophy; another possible explanation that has been offered is that the circulatory affection and the growth of the uterine fibroid may both depend upon a common cause, an analogy being suggested with exophthalmic goitre, in which disease symptoms at first sight remote and unconnected are believed all to arise from a central nervous affection. In whatever way the cardiac affection may be set up by the growth of a uterine fibroid, its presence is of the utmost practical importance from the point of view both of medical and surgical treatment. If the heart's action is already weak it is not safe to give ergot for the treatment of menorrhagia. If the cardiac or circulatory symptoms persist in spite of medical treatment they become an urgent indication for operation, and when this has been successfully practised the prognosis of the cardiac condition is good. Operation in such cases is, however, somewhat more risky than usual and should be preceded by a period of rest in bed.

Alterations in the constitution of the blood itself may be due primarily to affections of the uterus and its appendages, or when due to other causes may secondarily affect these organs and their functions. Scurvy, purpura, or hæmophilia may give rise to hæmorrhages into some of the pelvic organs or to profuse loss of blood from the uterus. In Bright's disease the vitiated blood may be the cause of diminished or of excessive and prolonged menstruation. In diabetes amenorrhœa may result. Anæmia from whatever cause arising is frequently accompanied by amenorrhœa. Chlorosis particularly has close associations with absent or scanty menstruation; in fact, amenorrhœa is as regular a feature of the disease as is imperfect evolution of the red blood corpuscles. The amenorrhœa does not appear to depend on the chlorotic state, but both are probably symptoms of a peculiar constitutional condition. The affection is not necessarily associated with impairment of the development of the body, nor is it frequently associated with defective health previous to its onset. Stieda, however, has shown that it is often associated with infantile types of structure, especially with ill-developed pelvis, labia, uterus, pubes, and breasts, and he believes that chlorosis is only one of the symptoms of general ill-development, being neither the cause nor the effect of any of the other symptoms. The close connexion between the condition that gives rise to chlorosis and the state of the pelvic organs was well illustrated by the case of a young woman who was under my care some years ago for frequently recurring attacks of severe chlorosis; during the course of a severe and rather prolonged attack the patient married and promptly conceived; in the course of the first three months of pregnancy the greenish complexion was replaced by the ruddy hue of robust health and has not since returned.

The close associations between chlorosis and amenorrhœa has suggested that the conditions depend upon diminished activity of the ovaries, and has led to the administration of ovarian extract in these cases; a moderate degree of success is said by a number of authors to have attended this method of treatment, and this is claimed as one of the proofs that the ovary manufactures and passes into the blood stream some substance or substances that are of service to the economy, either by supplying a need or by destroying other substances that are harmful.

The marked results that follow upon the complete removal of both ovaries have long been well known, but the exact mechanism by which these changes are brought about is still very imperfectly understood. A considerable amount of evidence has been accumulated in favour of the theory that they depend upon the internal secretion of the ovary,

and not upon the action of the nervous system. In osteomalacia it has been found that removal of the ovaries results in the arrest of the diseased process. The disease is characterised by a softening of the bones and in the later stages by a destruction of proteids not only in the bones but in the whole organism; there is a decided increase in the amount of calcium, magnesium, and phosphorus, and of the nitrogen excreted in the urine. The removal of the ovaries is followed by a great diminution in the excretion of phosphorus and by the restoration of the normal firmness of the bones.

The results that have been obtained from implantation experiments on animals afford another proof that the ovaries exert their influence on the organism by means of their connexion with the blood and not through the nervous system. Knauer and others found that the ovaries could be removed from rabbits and grafted on to peritoneum or muscle. A certain part of the ovary lived and was able to ripen and even to expel ova, and such ova could be impregnated, normal pregnancy resulting. The influence which the ovaries exert upon the organism is intimately connected with their main function—the development of ova. The atrophy of the uterus which follows double oöphorectomy is due not to interference with the blood-supply but to cutting off ovarian influence, and these implantation experiments prove that this influence is not a nervous one. As long as a functionally active ovary is present it does not matter in what part of the body it is situated.

On the analogy of thyroid medication, and in accordance with the theory of internal secretion, the treatment of certain affections by ovarian extract or by administration of the gland itself, either fresh or dry, has been tested with varying success. Good results have been obtained by numerous observers, chiefly German, in the treatment of the troubles of the menopause, both natural and post-operative, and in chlorosis and amenorrhœa a moderate degree of success has been obtained. The varying results obtained by different observers may depend upon difference in the preparations or in the ovaries employed. It is necessary to remember that only the ovaries of sexually mature animals are likely to be efficacious. The ovaries of heifers, for instance, are probably inactive; those of the sow are said to be the best for the purpose.

Specially intimate associations exist between the pelvic organs and certain glands at a distance. The influence of pregnancy upon the activity of the mammary glands and the common occurrence of abnormal sensations, fulness, and tenderness in these organs at the menstrual periods are common knowledge. So also is the frequent association of mumps with orchitis, and it has been suggested possibly with ovaritis. On the other hand, the occurrence of inflammation of the parotid gland as a common sequel of operations upon the pelvic organs of the female has been supposed to depend upon some subtle nervous relationship; it appears now, however, to be proved that the relation of the parotitis to the pelvic condition is not so caused, but that it is due to the infection of Steno's duct from the mouth in the course of prolonged and severe operations, or of the shock and torpor which follow them.

The relations between the thyroid gland and the female genital organs are of the greatest interest. Goitre is about ten times more frequent in females than in males and is much more common in parous women than in nulliparæ. The thyroid enlargement is often found to begin at, or soon after, puberty, and the increase in size is apt to be notably greater during the menstrual periods. The enlargement often begins during pregnancy and it is commonly observed that it becomes greater during each successive pregnancy. Many observers have stated that even when the thyroid appears to be normal it is practically always found to be larger in pregnancy, at least in the later months. Myxœdema also is much more frequent in women than in men. An antagonism has been supposed to exist between the action of the thyroid gland and that of the ovary. In Graves's disease amenorrhœa, as has already been pointed out, is common; in myxœdema there is frequently menorrhagia, and conversely uterine bleeding has been successfully treated by thyroid extract. The treatment of myxœdema and cretinism by thyroid medication proves that the gland has a profound effect in stimulating general metabolism. Oliphant Nicholson believes that the activity of the thyroid gland is of the utmost importance in preventing the toxæmia of eclampsia. He refers to Lange's observations on 133 women in the last 12 weeks of pregnancy, in 81·2 per cent. of whom the thyroid gland was hypertrophied. Of 22 patients who did not show enlargement of the gland, 16 had albuminuria and tube casts, and six of these cases terminated in eclampsia. Of 108 women who had normal thyroid hypertrophy only two had albuminuria, and in these two there was a history of renal disease previous to pregnancy. Nicholson thinks, therefore, that the phenomena of eclampsia are the result of thyroid inadequacy, and he records a series of cases in which the symptoms of eclampsia and of the pre-eclamptic state were alleviated in a striking manner by the exhibition of thyroid extract.

Tumours and other conditions of the uterus or its appendages frequently give rise to injurious effects on other organs by purely mechanical means. Occasionally an ovarian or a uterine tumour may attain so great a size as to fill the abdomen, pressing upon the diaphragm so as to impede respiration and interfere with the oxygenation of the blood, and compressing the large vessels at the back of the abdomen as well as the heart itself, so as seriously to embarrass the circulation. Retroverted gravid uterus commonly, and uterine fibroids occasionally, give rise to retention of urine by pressure or dragging on the urethra; sometimes a fibroid with pelvic development presses upon one or both ureters; in either case if the cause persists backward pressure is set up with eventual dilatation of the pelvis of the kidney and hydronephrosis, and consequent predisposition to infection of the urinary tract by pyogenic or septic organisms. In prolapse of the uterus and vagina the bladder is one of the commonest contents of the hernial protrusion, and along with the anterior vaginal wall and base of the bladder the lower ends of the ureters are pushed or dragged down. I am indebted to Dr. R. Saundby for directing my attention to the serious consequences that may ensue from this cause. A woman admitted under his care with renal hæmaturia was found to be the subject of an old prolapse, and as none of the ordinary causes of hæmaturia were present it appeared probable that the prolapse with the accompanying dragging of the ureters had given rise to dilatation of the ureters and kidneys, and that the bleeding was due to an acute congestion supervening upon this condition. In support of this view Dr. Saundby kindly referred me to a paper by Ch. Féré in *Le Progrès Médical*, Vol. XII., 1884. In this paper are related six post-mortem examinations on cases of prolapse in women from 63 to 91 years of age; in each of the six there was vaginal cystocele with dilatation of the bladder, and in every one the ureters and the pelvis and calyces of the kidneys were dilated, the distension being due not merely to retention of urine in the bladder but to the lower ends of the ureters being pulled down by the descent of the uterus. In five out of the six cases the bladder and ureters were also inflamed; the pelvis and calyces had thickened walls and were filled with purulent fluid; and the kidneys were the seat of multiple abscesses. In the only case in which there was no inflammation the kidneys were hydronephrotic. Féré adds that he has several times observed uræmic symptoms which disappeared after the reduction of prolapse of the uterus. From these observations it is apparent that in cases of old-standing prolapse a look-out should be maintained for symptoms of renal insufficiency. Having regard, however, to the fact that the dilatation and inflammation of the urinary tract are progressive affections and incurable, it is of the utmost importance that every case of prolapse should be early taken in hand and effectively treated, or better still that the lying-in period should be so managed as to prevent the beginning of the condition.

In the time at my disposal I have been able merely to glance briefly in passing at a few of the links of the great chains that bind obstetrics and gynæcology to the rest of medicine. No mention has been made of the influence on the female pelvic organs of certain constitutional conditions, such as the rheumatic and gouty diatheses. Nor of the important changes that frequently take place in these organs in the course of the acute specific fevers, such as scarlet fever, measles, small-pox, cholera, and diphtheria; that the effects of these diseases on the uterus and its appendages are not more fully known arises from the fact that they are often overlooked by reason of the graver and more striking symptoms of the general disease. Neither has special attention been directed to the extreme interest and importance of the general results of local septic infections of the generative tract, to the spread of cancer from the uterus and its appendages to the rest of the body, nor to the baneful remote results of syphilis and gonorrhœa.

Enough has been said, however, to show that those who

practise general medicine and surgery can no more afford to lose touch with obstetrics and gynæcology than the special practitioner in these subjects can dare to neglect medical science as a whole. The former have to bear in mind that distant and apparently remote symptoms may have their origin in some condition of the pelvic organs; thus, for instance, in a case of severe and persistent vomiting the possibility of pregnancy must be borne in mind. I have seen a necropsy on a case where death took place from vomiting and exhaustion supposed to be due to a gastric ulcer, but really depending upon a pregnancy that had not been suspected. On the other hand, the presence of a vulvitis may lead to the diagnosis of diabetes, or menorrhagia may turn out to be due to Bright's disease or to an acute specific disease. A girl, aged 19 years, who came to me at the special department for diseases of women at the General Hospital stating that her last period had persisted for a fortnight longer than usual, and that she was feeling somewhat out of sorts in consequence, turned out to be suffering from typhoid fever.

In life generally specialisation is one of the first principles. Wherever two or three cells are gathered together to form one organism each cell has its own special functions, and as we go higher in the scale of life, animal or vegetable, differentiation of the functions of different cells, organs, and tissues becomes more pronounced. So it is with knowledge; from the days when the philosopher was able to take all learning for his province until now specialisation has been an increasing necessity and has become more clearly defined as knowledge has advanced. But there are always two kinds of specialism in knowledge and in practice, in science and in art. The one is selfish, living for itself alone, drawing no sustenance and giving no return to the great stock of which it should be an organically connected branch; such false specialism at best takes on a rank and unwholesome growth and timely dies, as has happened in the case of phrenology. The great unity of Medicine has given origin to, and is in return nourished by, many special branches, and each of these branches will live or die according as it maintains or loses hold of its true organic connexion with the parent stem.

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Birmingham.

DESCRIPTION OF A HEART SHOWING GUMMATOUS INFILTRATION OF THE AURICULO-VENTRICULAR BUNDLE.

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IN THE LANCET recently[1] Dr. Charles W. Chapman recorded the remarkable case of a man who for some 12 years before his death had a slow pulse—about 42 beats per minute—and great dilatation of the veins of the right side of the abdominal wall. Dr. Chapman had shown the patient at the Clinical Society in 1898 and again in 1899; and we are indebted to him for his kindness in allowing us to make use of the very full clinical record of the case as reported in the Transactions of the Clinical Society.[2]

A man, aged 48 years, was admitted into the National Hospital for Diseases of the Heart on Oct. 6th, 1897. He complained of occasional palpitation on exertion and a shooting pain in the head. He further complained of a sense of suffocation when he leaned forward. Twenty years before he had a small itching sore on the penis which caused him no inconvenience and for which he had two months' treatment (1877). His first illness of any note was influenza in 1892, and the attack was a severe one. Six months later he began to suffer from palpitation; three months later, from a sudden sense of fulness in the head, accompanied by swelling and redness of the face which soon passed off. About this time he saw a medical man, who called his attention to some fulness in the superficial veins of the abdomen. During the attacks of palpitation he would sometimes *become suddenly faint, fall down, and remain unconscious for a few seconds.* Examination revealed that he was well nourished and had a dark-red face. The veins of the right leg and abdominal wall were dilated and tortuous and there was one large vein in the right axilla. The left leg was affected to a minor degree. The heart was beating feebly 54 to the minute, the apex was in the fifth space, one and a quarter inches to the right of the middle line, and a systolic murmur was heard at the apex. He was in hospital five weeks and the pulse varied from 54 to 32 with an average of 42 per minute. A provisional diagnosis was made of obstruction of the inferior vena cava by the pressure of a gumma or by phlebitis. He was given iodides for many years with some improvement. In 1905 he died in the London Hospital, aged 56 years, from peritonitis caused by perforation of the appendix; the only additional note made was that the abdominal veins filled most quickly from above.

At the suggestion of Professor W. Osler we have made a complete examination of the auriculo-ventricular connecting system[3] of muscular fibres of this heart to see if an explanation could be found for the marked diminution of the pulse-rate. The results of our inquiry throw a very definite side-light on the nature and function of the auriculo-ventricular connecting system. The symptoms led Dr. Chapman to diagnose some obstruction to the inferior vena cava of a syphilitic nature. The diagnosis was approximately correct, for there was some fibrous induration at the base and in the root of the right lung, but it was the superior, not the inferior, vena cava which was affected by the gummatous infiltration of the heart. The inferior vena cava at its entrance to the right auricle was nearly double its usual size, while the superior vena cava—lumen, wall, and orifice—was completely obliterated, only a small scar marking the site which it had once occupied (see Fig. 1, *a*, *b*). Since the musculature of the superior vena cava is believed to be the situation at which the heart's beat commences, it is important to determine approximately the date at which it was destroyed. The veins of the abdomen had been prominent for 13 years before death and at that period the man began to suffer from fulness of the head, palpitation, and fainting fits. About that time, or soon after, the musculature of the superior vena cava must have been destroyed. The collateral venous circulation appears to have opened up without causing any great inconvenience.

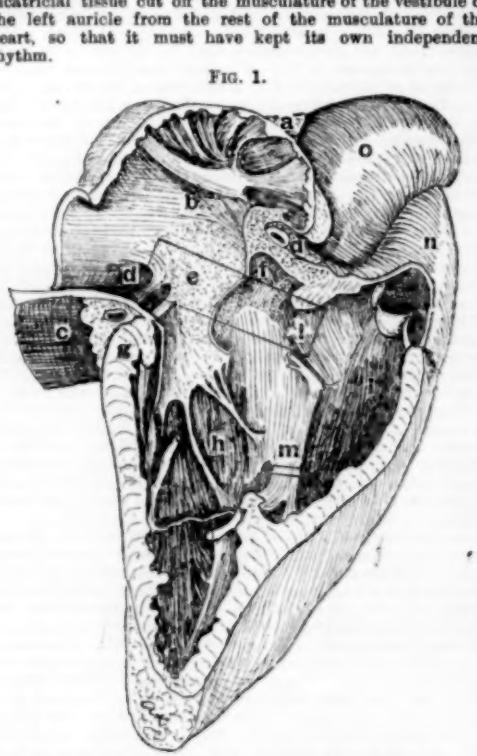
Since the musculature of the coronary sinus, as well as that of the superior vena cava, is derived from the sinus venosus one may suppose with good reason that the sinus may also be a site at which the heart's beat commences. In this heart the orifice and neighbouring parts of the coronary sinus are involved in, and form part of, a cicatricial mass which extends into and has destroyed all the musculature of the inter-auricular septum (see Fig. 1, *c*). The heart rhythm could not have commenced at the coronary sinus in this case. The orifice of the coronary sinus was contracted; it measured 6 by 5 millimetres.

It is probable, but the statement lacks experimental proof, that the contraction of the left auricle may commence in the musculature surrounding the terminations of the pulmonary veins. In this heart that musculature was but slightly involved in the gummatous infiltration. The musculature of the vestibule[4] of the left auricle was only slightly damaged, but all the musculature of the sinus of that chamber (Fig. 2 *b*), including the left tænia terminalis, was reduced to a ring of cicatricial tissue—a ring only

[1] THE LANCET, July 28th, 1906, p. 219.
[2] Transactions of the Clinical Society, vol. xxxi., p. 284, and vol. xxxiii., p. 34.
[3] For an account of the auriculo-ventricular connecting system see article by Keith and Flack, THE LANCET, August 11th, 1906, p. 359.
[4] See Evolution of the Muscular Structures of the Heart, by A. Keith, THE LANCET, March 12th, 1904, p. 704.

15 millimetres in diameter, yet evidently large enough to allow the pulmonary blood to reach the left ventricle without offering any grave impediment to its flow. The ring of cicatricial tissue cut off the musculature of the vestibule of the left auricle from the rest of the musculature of the heart, so that it must have kept its own independent rhythm.

FIG. 1.



Two-thirds natural size. Heart, showing the septal wall of right auricle and ventricle. *a*, Remnant of superior vena cava. *b*, Position of orifice of superior vena cava, quite closed. *c*, Greatly dilated inferior vena cava. *d*, Fossa ovalis. *e*, Cicatricial tissue of interauricular septum (stippled). *f*, Pars membranacea septi and extension of cicatricial tissue into interventricular septum, in which the auriculo-ventricular bundle is involved. Between *d* and *e* is the opening of the coronary sinus. *e*, *i*, The block cut out for examination. *g*, Base of right ventricle. *h*, Body of right ventricle. *l*, Infundibulum. *m*. Moderator band with plane of section indicated. *n*, Pulmonary artery. *o*, Aorta.

From Figs. 1 and 2 it will be seen that the cicatricial tissue included a considerable area of that part of the interventricular septum in which the auriculo-ventricular bundle is situated. We cut from the heart that part of the cardiac septum indicated in Figs. 1 and 2, and having removed the calcareous deposits which were in it by the use of sulphurous acid made a series of vertical sections along the block from the anterior or ventricular to the posterior or auricular end. The sections were cut serially, 10μ thick, and treated by Van Gieson's stain, three sections being mounted from each millimetre of the block. For his assistance in this laborious work we are greatly indebted to Mr. W. Chesterman. In the anterior or ventricular part of this block we found the main auriculo-ventricular bundle and its right and left septal divisions apparently healthy; perhaps the connective tissue which enters normally into their formation was in excess, but with the microscope we could detect no feature that indicated a pathological condition in the bundle. If anything the bundle and divisions are larger than is usual. The continuation of the septal division, seen on making sections at *m*, Fig. 1, and *f*, Fig. 2, showed the normal fibres of the auriculo-ventricular system. As we followed the bundle backwards its muscle was found to be gradually replaced by fibrous tissue, so that 15 millimetres of the main bundle, the whole of the network in which the bundle begins and all the auricular musculature in the vicinity of the network, were reduced to dense fibrous tissue—much of it being in the form of amorphous material in which calcareous deposits were present.

It may be safely assumed from the symptoms observed by Dr. Chapman and in the London Hospital and from the condition of the cicatricial tissue that the muscular connexion between auricles and ventricles had been destroyed several years (probably thirteen) before death, yet the complete section of the bundle has not resulted in any visible atrophy beyond the point of destruction. Were this peculiar system, so well described by Tawara, only a conducting pathway for the auricular stimuli into the ventricle one would expect degeneration in the system of fibres beyond the point of section, for it may be taken as an axiom in biology that abrogation of function is invariably followed by atrophy. This case lends support to those who regard the auriculo-ventricular system of fibres as concerned not only in conducting but also in originating the impulse which leads to the contraction of the ventricular musculature.

We have not yet finished the list of lesions in this remarkable case. The cicatricial tissue involved the orifice of the aorta and especially the openings of the right and left coronary arteries. The orifice of the right coronary artery measured 1·4 by 1 millimetre; along its course many

FIG. 2.

Two-thirds natural size. Left side of the heart is removed. *a*, Aorta. *b*, Contracted left auricle (stippling shows the extent of the cicatricial tissue). *c*, Pars membranacea septi; the stippled area below shows the extension of the gummatous tissue into the interventricular septum, in which the auriculo-ventricular bundle is situated. *d*, *e*, The block cut out for examination. *f*, The left septal division of the bundle (the line of section is indicated). *g*, Pulmonary artery. *h*, Cicatricial tissue at origin of aorta. *l*, Coronary sinus. *m*, Localised dilatation of the left ventricle.

irregular thickenings of the wall were seen. The posterior branch of the left coronary artery was almost obliterated; halfway along its course the anterior interventricular branch showed thickenings in its wall which narrowed the lumen to half its normal size. Any obstruction to the flow of blood along the anterior interventricular artery is always followed by the peculiar localised dilatation of the left ventricle, which is shown in Fig. 2, *m*. From the condition of the arteries we may infer that the blood-supply of this heart had

been reduced to half the normal amount, probably even less than half.

To sum up, the heart of this man was reduced to the following condition: the superior vena cava was completely destroyed; the coronary sinus was involved in a cicatrix; the sinus of the left auricle formed a cicatricial ring; the interauricular and part of the interventricular septum formed a cicatricial lamina; the commencement and upper half of the main auriculo-ventricular bundle were completely destroyed; and the coronary arteries were partially occluded. Yet with the complete separation of the musculature of the auricles and ventricles there had been only passing syncopal attacks some 13 years before, which was probably the date at which the auriculo-ventricular bundle was first invaded by the infiltration; there were no signs of heart failure, and there were no urgent symptoms of insufficiency of the heart's action.

The lesson to be drawn from the case appears to be that the normal mechanism of the heart may be profoundly changed without a great disturbance of function, provided that these changes are not brought about too suddenly. The recovery which followed the initial syncopal attacks was probably due to the auriculo-ventricular system persisting beyond the point of lesion and taking on an automatic power of originating ventricular contraction. Unfortunately, the routine method of examining the heart does not give us exact facts relating to the action of the several parts of the heart. The lack of such data shows us the necessity of applying to the heart the exact methods of the physiologist, as has been done with success by Mackenzie and Wenckebach.

33 CONSECUTIVE HYSTERECTOMIES.

BY W. HUNTER RICHARDS, M.B., M.S. DURH., F.R.C.S. ENG.,

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THIS series of cases includes 22 abdominal and 11 vaginal hysterectomies. Much has been written and said on the different ways and methods of performing these operations and the advantages of one over the other, and the conditions for which they should be undertaken. I do not propose to enter into this controversy but merely to state my own methods and views. The surgeon who dogmatises and states that this or that method of removing a uterus is the proper and correct way does not appeal to me. It is my experience that one seldom gets identical conditions to deal with, so that all cases cannot be treated alike but each on its merits. I choose the vaginal route when the uterus is fairly small, especially in parous women, and whenever possible for malignant disease. The vaginal operation is not easier to perform than the abdominal, if as easy, but the patient generally suffers much less during the first day or two and the recovery is quicker. Moreover, the risk of post-operative ventral hernia is obviated, a remote risk I admit but still a reality On the other hand, the abdominal operation gives the operator a better view and more space, a matter of importance where there are adhesions, &c.

The conditions which chiefly call for hysterectomy are: 1. Malignant disease of the cervix and body. 2. Fibroids with the following symptoms: (*a*) severe hæmorrhage not controlled by rest, ergot, and calcium lactate; (*b*) pain resulting from adhesions; (*c*) pressure effects—urinary trouble, &c.; (*d*) rapid growth, particularly when near the menopause and in childless women; (*e*) when their size is such as to cause inconvenience; (*f*) when they become inflamed or cystic or undergo degeneration; and (*g*) when they complicate pregnancy and make delivery impossible. 3. Deciduoma malignum. 4. For constant hæmorrhage caused by fibrosis of small uterine blood-vessels. I had one good example of this condition. The patient had been curetted several times before I was asked to see her in consultation. I also curetted but had subsequently to remove the uterus. Ergot and calcium salts had no effect whatever upon the bleeding. 5. Complete uterine prolapse with pain when the uterus cannot be retained in position.

Preparations for abdominal hysterectomy.—The patients are kept in bed for at least three days before operation on a light but nutritious diet, and they are given a mixture of sodii bicarbonas and sodii sulphas thrice daily; this helps to get rid of mucus in the stomach and intestines which accounts for much of the flatulency after operation. The night before they are given an aperient and a soap and water enema in the morning. About 36 hours before the operation the pubes are shaved and the abdomen is well washed and scrubbed with soap and water, then washed with ether or turpentine, and finally a compress of 1 in 60 carbolic solution is applied. The night before operation the carbolic compress is replaced by one of 1 in 500 biniodide of mercury in equal parts of spirit and water. The biniodide penetrates more deeply than carbolic acid or perchloride of mercury; the latter promptly forms an insoluble albuminate with lymph. The hands are well cleansed for half an hour and are frequently washed with saline solution during the operation.

The operation.—Four dry sterilised towels are pinned together around the area of operation. The abdomen is opened in the usual way and then I clamp the broad ligament close to the uterus, then ligature it well to the other side of the clamp. The broad ligament is now divided; this is repeated on the other side. The peritoneum along the anterior surface of the uterus is divided transversely about one and a half inches above the utero-vesical fold and then along the posterior surface; these incisions extend as far as the divisions of the broad ligaments. The peritoneum is now well reflected downwards and until the uterine vessels are exposed or felt. These vessels are ligatured before division, but in cases where the fibroids grow from the lateral walls and between the layers of the broad ligaments one always cannot do this and they have to be divided first and secured as best one can. In the incomplete hysterectomy the uterus is well drawn up into the wound and then amputated at the level of the internal os. When complete hysterectomy is done (having previously well prepared the vagina) the bladder is well separated in front and the vagina is opened into posteriorly close to the cervix after having further reflected the peritoneum. The vaginal connexion of the uterus is now divided with a curved scissors. Having removed the uterus, the vaginal wall is brought together with a purse-string suture and the peritoneal flaps with a continuous suture. If there is much oozing from the cervical stump after incomplete hysterectomy a swab wrung from boiling water is applied for a few seconds. Swabs are moistened in saline solution before use. With regard to ligatures and sutures, for blood vessels I use catgut (chromicised) ligatures; peritoneum, continuous catgut suture; musculo-aponeurotic layer, interrupted catgut about three-quarters of an inch apart, then I bring the aponeurosis alone accurately together with interrupted No. 2 or 3 silk sutures; skin, continuous No. 3 silk which I remove about the fifth day. In the vaginal operation I have used both clamps and ligatures with equally good results. The operation is completed more quickly with clamps. It is important to make the openings into the abdomen through the anterior and posterior fornices sufficiently wide, and if this is done properly the uterine vessels, &c., are more easily secured, and the ureters are not so liable to be included by the ligatures or clamps. The peritoneum is generally brought together by about two sutures and the vagina lightly packed with gauze.

After-treatment in the abdominal operation.—The patients are quickly put back to bed between blankets in a dark, quiet, warm, and well-ventilated room. After about 12 hours they are given a teaspoonful of hot water occasionally, and if not sick after about 18 hours are allowed two or three teaspoonfuls of milk in equal parts of hot water, which amount is gradually increased. If the sickness persists I order a tumblerful of hot water containing 30 grains of sodii bicarbonas to be given; this helps to wash out the stomach and get rid of mucus and bile resulting to some extent from the anæsthetic. On the morning of the third day a pint of soap-and-water enema with four to six drachms of turpentine is given and followed by an aperient by the mouth. The dressing is not touched generally until the fifth day. The patient is kept in bed for a month.

Case 23 I saw in consultation with her medical man, but did not elicit any history of old gastric ulcer. She had had great trouble with her bowels for about two or three years, having to take aperients constantly and suffered much pain. I attributed this to pressure effects of growth. When in the nursing home hot fomentations had to be applied to the abdomen to relieve pain whenever an aperient was given; she was also generally sick. For the first two days after operation she did well. On the third day she was a little sick and the abdomen was somewhat distended. Her temperature was 99·2° F. and her pulse was 100. A pint of soap-and-water enema with four drachms

TABLE OF CASES.

No. of case.	Age in years.	Disease.	Operation.	Result.	Remarks.
1	34	Cancer of vaginal portion.	Vaginal hysterectomy.	Recovery.	Married; children; uterus retroflexed and painful.
2	45	Cancer of cervix.	,,	,,	Married; children.
3	39	Fibroids.	Abdominal hysterectomy.	,,	Married; children; retention of urine; pressure on pelvic veins and nerves.
4	47	,,	,,	,,	Married; no children; rapid growth.
5	29	Fibroid.	,,	,,	Married; children; many small intramural growths causing severe bleeding.
6	About 35	Cancer of cervix.	Vaginal hysterectomy	,,	Married; children.
7	47	Fibroids inflamed and undergoing degeneration.	Abdominal hysterectomy.	,,	Single.
8	40	Cancer of cervix, hydrosalpinx, and cystic ovary.	Abdominal hysterectomy, ovariotomy, &c.	,,	Married; no children.
9	38	Fibroids.	Abdominal hysterectomy.	,,	Married; children; severe bleeding.
10	56	Malignant disease of cervix.	Vaginal hysterectomy.	,,	Married; children; proved later to be sloughing syphilitic ulcer which had destroyed anterior part of cervix.
11	40	Fibroids and ischio-rectal abscess.	Abdominal hysterectomy.	,,	Single; much pain; growth adherent to omentum and sigmoid flexure. She was an in-patient at a provincial hospital for two or three weeks and then was discharged unrelieved and was unable to continue her employment.
12	56	Fibroids.	,,	,,	Married; children; pain and retention of urine.
13	30	Fibrosis of uterine blood-vessels, left hydrosalpinx, enlarged ovary.	Abdominal hysterectomy, ovariotomy, &c.	,,	Married; no children; pelvis a mass of adhesions; pelvis packed with gauze. On the second day she drank contents of two flower vases; much vomiting and collapse. Subsequently did well.
14	30	Double pyosalpinx.	Abdominal hysterectomy, salpingectomy.	,,	Married; no children; pain and discharge. Tubes and uterus very adherent to each other, and also to rectum and bladder. Pelvis packed with gauze. Uterus removed to stop bleeding, &c.
15	32	Cancer of vaginal portion.	Vaginal hysterectomy.	,,	Married; children.
16	52	Cancer of cervix.	,,	,,	Married; children. When I was douching vagina after removal of clamps with 1 in 80 carbolic solution some of it got into the peritoneal cavity; shortly afterwards there was profound collapse and the patient nearly died. Her medical adviser was soon in attendance and he gave coffee and brandy per rectum. She soon recovered.
17	54	Fibroids, sloughing.	Abdominal hysterectomy.	,,	Married; children. Offensive discharge and bleeding; bladder trouble.
18	About 45	Cancer of body.	,,	,,	Single; great pain and offensive discharge. Uterus too big to remove per vaginam.
19	47	Cancer of cervix.	Vaginal hysterectomy.	,,	Married; children; case advanced. Ten months later recurrence and secondary growth in liver.
20	34	Fibroids.	Abdominal hysterectomy.	,,	Single; severe bleeding and pain at periods.
21	32	Procidentia uteri.	Vaginal hysterectomy.	,,	Married; children. There was a large mass (inflammatory) in pelvis. Uterus could not be kept up. Much pain and urinary trouble. Later much better and comfortable.
22	46	Fibroid.	Abdominal hysterectomy.	,,	Married; children; pain and bladder trouble.
23	48	Fibroids.	,,	Death.	Married; no children. Fibroids large and growing. Died on the fourth day after operation from obstruction of colon due to old gastric ulcer.
24	About 40	Cancer of vaginal portion.	Vaginal hysterectomy.	Recovery.	Married; children.
25	53	Fibroids, undergoing degeneration.	Abdominal hysterectomy.	,,	Single; pain and profuse offensive discharge.
26	31	Fibroids.	,,	,,	Married; child; severe hæmorrhage.
27	37	Cancer of cervix.	Vaginal hysterectomy.	,,	Married; children.
28	41	Cervical fibroid.	,,	,,	Married; no children; hæmorrhage.
29	42	Fibroids and large post-operative ventral hernia.	Abdominal hysterectomy.	,,	Married; children; severe bleeding and pain. Four years previously laparotomy was performed for suppurative condition in pelvis. Hernia of the size of a fœtal head. Intestines adherent to posterior aspect of scar. Pelvis a mass of adhesions. The whole scar excised.
30	About 36	Fibroid.	,,	,,	Married; children; profound bleeding. Miscarriage two and a half years ago, curetted by her medical man and subsequently at a London hospital. Later she was admitted to a provincial hospital for bleeding. Shortly afterwards I saw her in consultation and advised hysterectomy.
31	52	Fibroids.	,,	,,	Married; children; pain and offensive discharge.
32	40	Fibroids and chronic salpingitis.	,,	,,	Married; no children; pelvic pain, bleeding, and discharge.
33	38	Fibroid and ovarian cyst.	Abdominal hysterectomy and ovariotomy.	,,	Married; child; hæmorrhage and pain.

of turpentine was given and she passed a little fæcal matter and flatus. In the evening an aperient was given but without result. On the fourth day the abdomen was a little more distended and the patient was occasionally sick, but she assured me it was not more than she generally experienced after an aperient. The temperature was 99° and her pulse was 104. I ordered her a one-grain calomel pill every two hours—four to be taken in all—and soap-and-water enema with turpentine; a little flatus was passed. Six hours later (tea-time) the patient said that she felt better and asked if she might have a chop, which, of course, was refused. The temperature was 99° and the pulse was 106. I felt uneasy about her and feared obstruction. As her general condition was good, and taking into account the past trouble with her bowels, I decided to wait a little longer. About 8 P.M. the nurse telephoned me and said that the patient had become suddenly worse and that the temperature was 96° and the pulse 140. I saw her at once and found her collapsed and the abdomen very much distended; the extremities were cold. Two pints of saline solution were injected into the median basilic vein and coffee and brandy were given per rectum. She rallied well, but whilst I was preparing to reopen the abdomen with all haste she suddenly collapsed again and died shortly afterwards. After death I found a mass of adhesions on the lower and posterior aspects of the stomach, in which was incorporated the transverse colon, and that the obstruction was here. On the next day her medical man told me that she nearly died from gastric ulcer four years previously. Had it not been for the past history of trouble with the action of the bowels, and the absence of any evidence of previous abdominal trouble, I would have reopened the abdomen early on the fourth day. Yet her condition was fairly satisfactory when I saw her at tea-time excepting that the bowels had not acted. The operation itself was perfectly successful.

General remarks.—The most important element in abdominal surgery is asepsis. It is not uncommon to see the most elaborate preparations and yet to observe during the operation absolute lack of, or inability to carry out, the aseptic technique. Apart from direct infection by the hands, ligatures, particles of dust, &c., it is most important to avoid unnecessary injury to the peritoneal endothelial cells by rough handling, rough sponging with dry swabs, the introduction by the hands, swabs, &c., of strong corrosives—carbolic acid, perchloride of mercury, and exposure to a temperature much below the normal of the peritoneal cavity. A very vivid imagination is not required to appreciate the damage to the peritoneum caused by carbolic acid and perchloride of mercury. Everyone knows their effect upon the stratified epithelium of the hands. What then of their effects upon the delicate peritoneal endothelial cells?

Again, hæmorrhage and imperfect hæmostasis are factors in aiding sepsis. Where there has been much bleeding a certain amount of collapse is certain to follow, a state of things where life is at a low ebb, and with it *pro rata* the germicidal powers of the tissues. Again, there is such a thing as immunity. Normal blood contains proteid substances called alexins or bacteriolysins which are strongly bactericidal and a protection against general bacterial invasion. The condition of the blood is not normal after hæmorrhage and amongst other things lost in proportion are these bacteriolysins. There is little doubt but that the leucocytes, particularly the polynuclear cells, play the important rôle of scavengers on the advent of bacteria. After hæmorrhage their total number is greatly reduced for some time. It is true that the proportion of white corpuscles to the red are enormously increased, but the increase is chiefly due to the lymphocytes which do not possess the phagocytic qualities of the polynuclear leucocytes.

Generally speaking, other things being equal, the alkalinity of the blood favours its bacterial action. After hæmorrhage the resistance of the body, as before stated, is at a low standard, and it does not appear on *a priori* grounds impossible that lowered blood alkalinity may play a part in this depression of resistance. I have, however, no direct evidence to offer on this point, nor do I know that it has been investigated. What we do know is that after severe bleeding a sudden call is made upon the lymph to replace the fluid of the lost blood, and so there will be swept into the circulation by-products of metabolism from the tissues and organs of the body, and many of these have acidic properties. It is thus quite possible that after hæmorrhage a diminution of the blood alkalinity may be a contributory factor to the ease with which sepsis may be induced. In diabetes, where the alkalinity of the blood is reduced by the excessive formation of fatty acids, we have a somewhat analogous condition, only in diabetes there is not also that reduction of the red corpuscles which occurs after hæmorrhage. Alkalinity of the blood and of the tissues it bathes favours vital oxidative processes. The lessening of the blood cells (the oxygen carriers) *plus* any diminution of alkalinity if such occurs after hæmorrhage, will therefore depress those oxidations by which the body ultimately defends itself against deleterious agencies.

Imperfect hæmostasis means that a certain amount of blood is poured into the pelvis; it may be absorbed or not, depending upon the quantity and the absorbing qualities of the peritoneum. If not absorbed here is a nidus of tissue—not normal blood nor living tissue in the physiological sense—suitable for the growth and multiplication of micro-organisms. Raw surfaces are fruitful in the production of intestinal obstruction and every precaution is necessary to prevent them. On several occasions I have met extensive ones with much capillary oozing. If I somehow cannot cover them over with peritoneum and stop the oozing I gently pack the parts with gauze, which I remove 24 or 30 hours later. I operate in a theatre or room with the temperature at about 75° F. Stimulants and strychnine I do not use unless very clearly indicated. Why whip a willing horse?

As to shock, this is a term often used wrongly, whether in ignorance or otherwise I cannot tell. Deaths on about the fourth and fifth days are generally owing to suppurative peritonitis and intestinal obstruction due to adhesions and not to shock. Then again deaths from hæmorrhage with all its cardinal symptoms—small, rapid pulse, profound pallor, dilated pupils, thirst, and restlessness—are often laid to the credit of shock. For this class of operator I fear there is no hope, for there is no excuse for allowing a patient to die from hæmorrhage. That patients may suffer from shock after prolonged handling and exposure of peritoneum, especially if the anæsthetic has been faultily administered, I do not deny. Happily I have not met with it. Sound knowledge of the principles of modern surgery, deliberate execution, the carrying out of details, physical endurance, and good sight are essentials in pelvic surgery, which should not be undertaken by anyone not possessing them, for no one can afford to concede points when the life of a patient is at stake.

Harley-street, W.

FURTHER NOTE TO A CASE OF MYELOPATHIC OR SPLENOMEGALIC POLYCYTHÆMIA.[1]

BY F. PARKES WEBER, M.D. CANTAB., F.R.C.P. LOND.,
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THE present case was first exhibited at the clinical meeting of the Clinical Society on April 22nd, 1904, and was subsequently described in full in the Transactions of the Royal Medical and Chirurgical Society[2] as "A Case of Splenomegalic or Myelopathic Polycythæmia with True Plethora and Arterial Hypertonia without Cyanosis." The disease (with or without obvious cyanosis) is also known as Vaquez's disease (since Vaquez published the first definite description of a case) and as Osler's disease (since Osler a few years ago drew attention to its main features as constituting a new "clinical entity"). H. Senator[3] has recently described it under the heading "Erythrocytosis Megalosplenica." The terms "polycythæmia vera" and "polycythæmia rubra" do not distinguish it from the polycythæmia of high altitudes or from the polycythæmia of congenital heart diseases, &c.

The patient is a Roumanian Jewess, now about 40 years of age. Her general appearance is much the same as when her case was described in May, 1905, at the Royal Medical and Chirurgical Society. The spleen is, if anything, rather larger and harder and more distinctly felt, and in the right inferior quarter of the abdomen a large tumour has

[1] The original paper was published in THE LANCET, May 13th, 1905, p. 1254. The case was shown at the clinical meeting of the Medical Society of London on Nov. 12th, 1906.

[2] Transactions of the Royal Medical and Chirurgical Society, vol. lxxxviii., 1905, pp. 191–223.

[3] Zeitschrift für Klinische Medizin, vol. lx., p. 357.

developed which is of about the size of a very large cocoanut and probably of ovarian origin (an examination was kindly made by Dr. C. H. Roberts). Menstruation has of late been generally very profuse. Whether owing to the growth of the tumour, or to excessive menstrual losses or to dietetic or other causes, the polycythæmia has recently decidedly lessened.

Dr. A. E. Boycott, who kindly very carefully examined the patient's blood on Nov. 9th, 1906, found the hæmoglobin (by Haldane's method) to be 135 per cent.; there were 7,536,000 red corpuscles in the cubic millimetre (against 9,000,000 or 10,000,000 previously) and only 2900 white cells. Dr. Boycott's differential count of white cells gave lymphocytes 11·6 per cent., intermediates 5·2, large hyalines 4·0, polymorphonuclear neutrophiles 77·2, eosinophiles 0·8, and mast cells 1·2; there were no myelocytes. Owing to the condition of leucopenia present the polymorphonuclear neutrophiles, though relatively increased (as before), only attained the total of 2239 in the cubic millimetre of blood—that is to say, they numbered about 50 per cent. too few (the excessive total quantity of blood in the body must, however, be taken into account). Examination of the red corpuscles showed no poikilocytosis; most of them were normal in size (as compared by superposition), but there were a few microcytes; a good many were polychromatophilic; there were a fair number of nucleated red cells (normoblasts) present (Dr. Boycott quickly found ten), all with more or less polychromatophilic cytoplasm. Through the kindness of various colleagues I have had the opportunity of examining other cases of splenomegalic polycythæmia which have been observed in London and I am convinced that the constant presence of normoblasts *in fair numbers* is a specially noteworthy feature of the blood in the present case.

Another point to be mentioned is that for the last two months or so the patient has complained of a remarkable feeling in her hands, an abnormality in "hygric sensibility"—that is to say, she says whatever she touches with her hands (when her hands are cold, as they often are) feels wet to her. In regard to this condition, which may be termed a "paræsthesia" or "illusion" of hygric sensibility, reference may be made to two Italian papers, "Contributo allo Studio della Illusione Igrica," by E. Ravenna and Montagnini,[4] and "Un altro Caso di Alterata Sensibilita Igrica," by E. Ravenna.[5] In this connexion it may be noted that the present patient first came under observation suffering from severe erythromelalgia of a lower extremity and that various nervous disorders, some of functional, others of organic origin, have been recorded in other published cases of splenomegalic polycythæmia.

In regard to the etiology of the disease there is one point to which I should now like to refer. Senator in his recent paper[6] says that J. Bence and A. von Kornyi have both suggested that the hæmoglobin of this class of patients cannot take up as much oxygen as the hæmoglobin from blood of normal persons, but observations on Senator's case did not lend support to this view. The point has not been investigated in my own patient, but in a specimen of blood which was given me from another patient with splenomegalic polycythæmia Dr. Boycott kindly made a direct estimation of the oxygen capacity. He found that though the oxygen capacity of the hæmoglobin was possibly slightly deficient, the blood as a whole had an oxygen capacity of at least 10 per cent. more than that of a normal man. In a specimen of blood from yet another case of splenomegalic polycythæmia Dr. Boycott found the oxygen capacity of the hæmoglobin to be practically normal.

My best thanks are due to Dr. Boycott for his exceedingly valuable help.

Harley-street, W.

[4] Rivista di Patologia Nervosa e Mentale, 1902, p. 400.
[5] La Riforma Medica (Naples), 1903, vol. xix., p. 1377.
[6] Loc. cit.

MIDDLESEX HOSPITAL.—The treasurers of this hospital have received a further donation of 50 guineas from the Worshipful Company of Merchant Taylors.

MEDICAL GRADUATES' COLLEGE AND POLYCLINIC.—Professor T. Clifford Allbutt, F.R.S., the Regius professor of physic in the University of Cambridge, will preside at the forthcoming annual dinner of the Medical Graduates' College and Polyclinic on Dec. 12th at 7.15 P.M. at the Trocadéro Restaurant, London, W. Tickets can be obtained from Captain Pinch, 22, Chenies-street, W.C.

TWO CASES OF PERFORATED GASTRIC ULCER SUCCESSFULLY OPERATED ON.

BY D. MACARTNEY, M.A. EDIN., M.D. GLASG.,
ASSISTANT SURGEON TO THE WESTERN INFIRMARY, GLASGOW, ETC.

CASE 1.—The patient, a man, aged 41 years, was admitted to Dr. T. K. Dalziel's male ward in the Western Infirmary, Glasgow, on July 11th, 1906, recommended by Dr. F. Macrae and Dr. James Todd as a case of perforated gastric ulcer. He was a very well-developed, healthy looking man, who until a fortnight before admission had never had any trouble with his stomach, but during that time he had experienced a disagreeable sense of heaviness in the epigastrium. About 6 A.M. on the day of admission, while at work, he was suddenly seized with a griping pain in the abdomen and within a short time the pain was so excessive that he was rolling in agony. He was taken home and Dr. Todd saw him at 10 A.M. Dr. Macrae was called in consultation and advised his immediate removal to the Western Infirmary. He was admitted at 4.30 P.M. and the operation was over by 5.30. On admission his temperature was 101·8° F. and his pulse was 108. The facies was not typical, but the whole abdomen was rigid, particularly in the epigastrium.

On opening the abdomen in the usual way the stomach was brought into the wound and examined first on the anterior surface, which was quite normal in appearance and smooth on the surface except for the presence of a small nodule of what was mistaken for a little fat that the operator's finger might have dislodged from the supra-peritoneal layer or from the omentum (the patient was a fat man for his years). Next the posterior surface with the curvatures were passed in review without result, and again the anterior surface was exposed. This little excrescence was still *in situ* three inches or so from the pylorus and midway between the curvatures. Dr. J. S. Rankin, who was assisting, was asked to sponge it off, both hands of the operator being otherwise engaged. It took him several smart rubbings with a gauze sponge to dislodge it and then the perforation was revealed. What was mistaken for a fat globule was in reality a pioneer granulation formed on the serous surface as the final step in the ulceration. No stomach contents had escaped, at least none of a gross character. The stomach wall was infolded at the point of rupture and two parallel continuous sutures of strong catgut were applied. The immediate area was sponged over and afterwards flushed with saline solution. The wound in the abdominal wall was closed in three layers.

The patient's recovery was uneventful. By the following day his temperature was normal; the pain had absolutely disappeared by the time he had come out of chloroform, and there was nothing to note in his subsequent history. He was dismissed on August 11th.

CASE 2.—The patient, a man, aged 29 years, was admitted to the same ward on Sept. 10th, 1906, recommended by Mr. E. J. Jones of Alexandria as a case of perforated gastric ulcer. He had had no trouble with his stomach until he was over 20 years of age, but from that time onwards he had had intermittent attacks of what he described as an uncomfortable gnawing sensation with a sense of weakness in the upper part of the abdomen, coming on about two hours after meals and accompanied by a good deal of flatulence and "water-brash." Rarely had he sickness or vomiting and never hæmatemesis, nor, to his knowledge, melæna. He did not especially diet himself, but he had learned to avoid potatoes, onions, and vegetables generally, which he found brought on an attack. Latterly the seizures had become much more frequent and severe. There were no special symptoms before the sudden illness that necessitated his admission to hospital. He had breakfast at 9 A.M. (porridge, a poached egg, and a thin slice of bread). Between 11 A.M. and noon he began to feel weak and shortly he was suddenly seized with an extremely severe pain in the epigastrium. He took hot water to relieve the pain but immediately rejected this. He was able to walk to a house about 100 yards off where he got some castor oil; this, too, he immediately brought up. No blood was noted in the vomited matter. The pain continued and increased in severity. Dr. A. MacLellan's locum-tenent (Mr. Jones) and assistant saw him and advised his immediate removal to hospital.

On admission his temperature was 101° F. and his pulse was 116. His face was pinched and anxious-looking. The abdomen was rigid, the pain on pressure being very severe. I was called up at once and operated, finding on the anterior surface of the stomach towards the pyloric end a clean, punched-out perforation. The aperture was circular, it being as cleanly defined as the lace-hole in a boot before the ring is inserted and of the same size. The ulcer was excised by an elliptical incision an inch in length and the edges of the wound were closed by three rows of continuous suture as in gastro-enterostomy. There was a track of inflamed area from the vicinity of the ulcer leading backwards towards the junction of the liver and the right kidney. The area was visible by the white exudation due to the escape of part of the contents of the stomach. This was carefully wiped away with gauze sponges and then copiously washed out with salt solution. There appeared then so little contamination that it was deemed right to close the abdominal wound completely and to do without draining either there or in the flanks. A quantity of the saline solution was purposely left in the peritoneal cavity. After recovering consciousness the patient's pain had disappeared and at the first observation the temperature and pulse had both declined; his facial appearance was quite different, being free from the pinched and anxious look.

The patient's subsequent history was uneventful. His face for a time had a passively congested look, due doubtless to the manipulation of the parts in the near neighbourhood of the sympathetic plexus. He was dismissed well on Oct. 11th.

Glasgow.

Clinical Notes:

MEDICAL, SURGICAL, OBSTETRICAL, AND THERAPEUTICAL.

A CASE OF STRANGULATED HERNIA OPERATED ON UNDER LOCAL ANÆSTHESIA.

BY DAVID B. TODD, M.R.C.S. ENG., L.R.C.P. LOND.

THE interest of the following case lies in the complete success of the use of a local anæsthetic in an operation for strangulated hernia occurring in advanced life.

On the morning of Nov. 2nd last I was called to see a man who was said to be in great pain. On arrival at the house I found that the patient, who was a well-nourished man, aged 77 years, had a strangulated inguinal hernia of the right side. Some two hours previously he had been feeding pigs, when on lifting something heavy he suddenly felt a violent pain in the inguinal region. He had been ruptured for years and so at first thought that the old rupture was a little pinched and would go back, but as he had worked at it for two hours without success he thought it necessary to seek medical aid. Morphine was given hypodermically and gentle taxis was tried, but as it became clear that no good was likely to accrue operation was suggested. The patient was unable to make up his mind to undergo the ordeal until later in the day, when Mr. G. G. Parsons having very kindly come over from Westbury the operation was commenced at 8 P.M. On the ground of the patient's great age and the fact that he had a very weak heart it was decided not to give a general anæsthetic, but to use a local anæsthetic and the choice fell upon "anæsthunder," a mixture of betaeucaine, suprarenal extract, and phenol. A line was taken from the pubic spine parallel to Poupart's ligament for three inches, and along this line the local anæsthetic was subcutaneously injected. 20 minims were used, and after an interval of three minutes the skin along the line was incised without pain. Until the gut was reached during the operation (which was not specially interesting except for the action of the local anæsthetic) only 60 minims of the anæsthetic were used. The tissues were carefully injected layer after layer; no pain was felt, and there was hardly any bleeding. When it became necessary to incise the internal ring, where in the circumstances of the operation it would have been dangerous to inject the anæsthetic, pain was severe but fortunately of short duration. The bowel was replaced without much difficulty, one deep stitch was inserted, and the incision in the skin was closed by four superficial sutures. Healing was by first intention, and the stitches were removed upon the eighth day after the operation. Throughout the course of the recovery no pain was felt. The patient is now quite out of danger and in addition has a good prospect of a radical cure.

Bratton, near Westbury, Wilts.

A CASE OF ECTOPIC GESTATION OCCURRING TWICE IN THE SAME PATIENT, IN BOTH INSTANCES THE UTERUS BEING RETROVERTED.

BY CLAUDIA A. P. ROWSE, M.B. DURH.

THE patient was married and aged 26 years; she had one child, four years old. Three years after the birth of the child she missed two periods. At the end of the second month irregular hæmorrhage set in, with severe pain in the right iliac region, the pain being especially noticed during walking. On examination the uterus was found to be retroverted and enlarged and a cystic swelling was felt behind and to the right of the uterus. A diagnosis of ruptured tubal pregnancy was made. Operation was performed. The right tube was ruptured and the ovum with about a pint of blood clot was found between the two layers of the right broad ligament. This was evacuated by the extraperitoneal method; the ovary and tube were not removed.

The patient did not become pregnant again until nine years after the operation. The history of the next gestation was as follows. On August 1st, 1906, I was called in to see the patient, who complained of pain in the left iliac region and over the lower part of the abdomen, with sickness after food; there was amenorrhœa of two months' duration. On physical examination the breasts were tender and slightly enlarged; no secretion could be obtained. The vulvæ were bluish in colour and the uterus was somewhat enlarged and retroverted. Owing to the extreme tenderness it was impossible to replace the uterus. Ichthyol plugs were applied per vaginam for seven days, the patient remaining in bed. On the 8th, while straining to pass a motion, severe pain was felt in the lower part of the abdomen, with shooting cramp-like pains in the legs. When seen the patient was in a state of collapse, the skin was cold and blanched, and the face was drawn and anxious. She lay on the left side with the knees bent and the thighs drawn up to the abdomen. Examination under an anæsthetic showed that the uterus was no longer retroverted, but drawn up high into the pelvis and pushed over to the right side. A cystic swelling was found behind and to the left of the uterus.

Operation was performed. The abdomen was opened. Behind and to the left of the uterus was found a large adventitious sac containing the ovum and about a quart of blood clot. The sac was formed by the posterior wall of the broad ligament in front, the ruptured tube above, and the intestines posteriorly. The clot and ovum were removed along with the tube and ovary on that side. The right tube and ovary were found to be bound down by adhesions and were not removed. The patient made a good recovery.

Watford.

AMYL NITRITE IN HÆMOPTYSIS AND IN OTHER HÆMORRHAGES: RECENT RESULTS.

BY FRANCIS HARE, M.D. DURH.,
LATE CONSULTING PHYSICIAN TO THE BRISBANE GENERAL HOSPITAL.

LAST year and at the commencement of the present year I published in THE LANCET and elsewhere nine cases in which the inhalation of amyl nitrite had been immediately successful in stopping hæmoptysis. (The first two of the series had been published in the *Australasian Medical Gazette* in October, 1903.) There was no complete failure, but in one case in which there had been three attacks one attack was moderated only, not immediately stopped. This was due to inadequacy of dose. Since then H. C. Colman[1] in Scotland and E. T. Smith[2] in Queensland have each published one case, both immediately successful. But it is in France that the method has been chiefly studied. M. J. Rouget[3] refers

[1] Scottish Medical and Surgical Journal, May, 1905.
[2] Australasian Medical Gazette, June, 1906.
[3] Bulletins et Mémoires de la Société Médicale des Hôpitaux de Paris, April 20th, 1905.

to ten cases of his own: and Georges Bourland[4] in a graduation thesis, describes 13 cases, four of his own, six by Pic, and one each by Leclerc, Lemoine, and Mouisset. Many of these cases had several attacks and in every instance the bleeding ceased immediately under amyl nitrite inhalation. The dose varied from three to nine minims. There are thus recorded 34 cases in which hæmoptysis occurred once or several times, and in which in every instance, save the one recorded by myself, the hæmorrhage immediately ceased under amyl nitrite inhalation.

Conformably with these clinical results Pic and Petitjean have demonstrated the action of the drug in the laboratory.[5] Dogs weighing from 15 to 20 kilogrammes were curarised, part of the chest wall removed, and artificial respiration was performed. Amyl nitrite was then injected into the femoral vein. Within a few seconds white patches commenced to form on the surface of the lung. These steadily extended, then coalesced, so that finally in from two to three minutes all, or nearly all, the lung parenchyma became exsanguine. This extreme effect lasted several minutes, but from seven to ten minutes elapsed before the normal rose colour returned. It would seem that the vaso-motor influence of the drug, at any rate, upon the pulmonary circulation, is more enduring than has been suspected. The hæmostatic power of the vascular change was demonstrated by snipping the anæmic lung with scissors, when hardly a drop of blood exuded.[6]

Pic and Petitjean consider that the drug acts through an active vaso-constriction of the pulmonary system, not less than through vaso-dilation of the systemic periphery. They state that synchronously with the paling of the lung there is a rise of pressure in the pulmonary artery. Against this conclusion, however, must be placed the clinical fact that amyl nitrite is equally efficient in many hæmorrhages from the systemic vessels. Menorrhagia, apparently from any cause, may, as a rule, be effectually controlled by a single inhalation a day. Moss[7] found the drug successful in the reactionary hæmorrhage following the removal of parovarian cysts and in ruptured tubal gestation. And J. R. Keith[8] has recently recorded an immediately successful result in post-partum hæmorrhage.

Northumberland-avenue, W.C.

A Mirror
OF
HOSPITAL PRACTICE,
BRITISH AND FOREIGN.

Nulla autem est alia pro certo noscendi via, nisi quamplurimas et morborum et dissectionum historias, tum aliorum tum proprias collectas habere, et inter se comparare.—MORGAGNI *De Sed. et Caus. Morb.*, lib. iv., Proœmium.

MIDDLESEX HOSPITAL.

A CASE OF MULTIPLE PNEUMOCOCCAL EPIPHYSITIS; RECOVERY.

(Under the care of Dr. A. F. VOELCKER and Mr. W. S. HANDLEY.)

FOR the notes of the case we are indebted to Mr. H. J. Fardon, house surgeon.

The patient was an infant, aged 13 months, born of healthy parents and breast-fed until 12 months old. The child was perfectly healthy until five weeks before admission on August 1st last. During these five weeks he had been under medical observation and was stated to have had pneumonia, from which he was apparently convalescing. On the morning of admission to the hospital the mother had noticed that the right shoulder was swollen and that the child would not move it. On admission the child was found to be well nourished; the temperature was 104° F., the pulse was 108, and the respirations were 60. The slight impairment of movement of the left side of the chest, together with impaired resonance and redux crepitations over the left lower lobe, confirmed the recent history of pneumonia. The right shoulder was markedly swollen, hot, painful, and tender, and its movements were limited. The swelling was chiefly in front of the joint and on its outer side. The skin was not reddened but distinct fluctuation could be felt beneath the deltoid. A needle was inserted and odourless pus was withdrawn. No growth was obtained on tubes inoculated with this pus, but films stained by Gram's method showed the presence of numerous diplococci indistinguishable from the pneumococcus. An incision was made between the deltoid and great pectoral muscles. About two ounces of pus escaped and an abscess cavity was found lying between the deltoid muscle and the outer side of the humerus and extending forwards over the front of the joint. The capsule was not distended and the shoulder-joint was therefore not opened. A counter opening was made into the abscess behind, the cavity was washed out, and drainage-tubes were inserted. The temperature fell immediately but began to rise again on August 8th and by the 10th had reached 103°. Two injections of anti-pneumococcal serum appeared to be entirely without effect. A small abscess developed at one of the costo-chondral junctions on the right side and was opened under local anæsthesia. Later a similar small abscess developed at one of the upper left costo-chondral junctions. On the 10th a swelling appeared just above the left knee. This was immediately incised on each side and pus was found about the epiphyseal line in front of the lower end of the femur and tracking up under the quadriceps muscle. The knee-joint was not at this time involved. The pus cavity was washed out and tubes were inserted. Further treatment consisted in hot fomentations and irrigation. On the 21st the left ankle swelled and the temperature again rose to 101·4°. The swelling subsided in two days without operative interference. The temperature, however, continued to rise until it reached 103°. On the 23rd the joint cavity of the left knee became distended. Incisions were made into it, turbid serum was evacuated, and the joint was washed out with weak perchloride of mercury solution. The temperature fell permanently to normal on the 28th. On Sept. 11th the discharge from the sinuses had ceased and the tubes were removed. The child became very emaciated whilst in the hospital and this was partly due to persistent but slight diarrhœa which resisted all ordinary treatment. During the latter part of September, however, the diarrhœa diminished and he put on weight and became appreciably fatter. The sinuses closed soon after the removal of the tubes. All signs in the chest completely disappeared and the child was sent to a convalescent home in the beginning of October. Although the movements in the affected joints are very limited the ankylosis is not complete.

Remarks by Mr. HANDLEY.—The case presents the rare clinical picture of an epiphyseal pyæmia. Its favourable result is owing mainly to careful dressing and nursing.

DERBYSHIRE ROYAL INFIRMARY.

A CASE OF SUBCUTANEOUS RUPTURE OF POUPART'S LIGAMENT AND LACERATION OF PERITONEUM.

(Under the care of Mr. R. H. LUCE.)

For the notes of the case we are indebted to Dr. F. A. Hepworth, house surgeon.

A young man, aged 20 years, while attending an evening class in a top-storey room at the technical school became faint and was sent out to recover. He went out on a parapet which runs round the roof and was forgotten. Apparently he fainted again and fell from the parapet into the area below, a distance of about 60 feet. When taken to hospital at about 11.30 P.M. he was extremely collapsed, and though able to give his name was unable to say what had happened to him. He complained of pain in the lower abdomen. The face was pale, the skin was cold, and the pulse was so weak that it was scarcely palpable. The abdomen was not distended but very hard and immoveable. There were evidently great pain and tenderness, especially in the lower part of the abdomen on the right side; nothing abnormal was found on percussion. The urine was drawn off by catheter and found to be normal. About an hour after admission a swelling was noticed in the right iliac fossa, immediately above Poupart's ligament; this enlarged slowly, became resonant on percussion, and slight bruising appeared on the surface. As it appeared probable that some part of the intestinal tract

[4] Traitement des Hémoptysies par le Nitrite d'Amyle, 1905.
[5] Comptes Rendus Hebdomadaires des Séances de la Société de Biologie, Jan. 28th, 1906, p. 131; also Lyon Médical, Feb. 18th, 1906, p. 309.
[6] Traitement des Hémoptysies par le Nitrite d'Amyle, 1905, p. 29.
[7] THE LANCET, Oct. 14th, 1905, p. 1107.
[8] Brit. Med. Jour., Oct. 27th, 1906, p. 1125.

had been ruptured the patient was anæsthetised at 1 A.M. and an incision made similar to that used in operations for inguinal hernia. A large hæmatoma was exposed; after clearing out the blood-clot it was found that Poupart's ligament and the external oblique aponeurosis were badly lacerated and a good deal of oozing was going on. The cavity extended into the iliac fossa and downwards behind the symphysis pubis. At the bottom of the hæmatoma a rent was found in the peritoneum of the iliac fossa about one and a half inches long, through which blood was leaking into the general peritoneal cavity. The intestines were examined and found uninjured; the peritoneum was therefore sutured and the skin wound closed except at the inner end where a drainage-tube was passed down behind the symphysis. The patient recovered from shock in two or three days' time, the wound remained clean and healed well, and at the end of a month he left hospital quite convalescent.

Medical Societies.

ROYAL MEDICAL AND CHIRURGICAL SOCIETY.

Special Discussion on the Operative Treatment of Non-Malignant Ulcer of the Stomach and its Chief Complications, with Indications, Limitations, and Ultimate Results.

A MEETING of this society was held on Nov. 13th, Mr. J WARRINGTON HAWARD, the President, being in the chair.

Dr. W. HALE WHITE, in opening a discussion on the above subject, said: Inasmuch as the opener of a debate has to cover a wide field in a short time you will, I am sure, excuse me if I only lightly touch the various points of the subject. Often the duty of a physician is to advise the patient whether or not to see a surgeon, therefore he has to consider what are the cases which surgery can benefit. About perforation there is no doubt. Whatever the medical man's engagements may be everything must give way to hastening operation; every hour's delay increases the chances of death by 1 or 2 per cent. On the other hand, if operated upon early the patient will probably survive and have good health for the rest of his or her life. The diagnosis is not usually difficult and even when a mistake has been made it is commonly found that the condition existing is one—e.g., perforation of the appendix or acute strangulation—for which the abdomen should be opened. Sometimes acute hæmorrhagic pancreatitis is revealed, and although there is no evidence that laparotomy benefits this, yet the separation of it from perforated gastric ulcer is so difficult that the patient should usually be given the benefit of the doubt and the abdomen should be opened. A year ago, however, I refrained from asking a surgeon to see a woman who was thought to have a perforated gastric ulcer, my reason being that after a few hours' very acute illness the patient improved for 24 hours, then became very ill again and died. It turned out that we were correct in thinking the case was not one of perforated gastric ulcer, for it was one of acute pancreatitis. Some cases of hysteria require great care, for they may closely simulate perforation of a gastric ulcer. With regard to the operation itself, it would be of interest to learn from surgeons whether or not it is better to do a short-circuiting operation at the same time as the operation for perforation is performed. Judging from our results at Guy's Hospital it appears that patients who survive an operation for perforated gastric ulcer do so well that a gastro-jejunostomy is quite unnecessary. Next to perforation severe hæmorrhage is the most acute symptom of gastric ulcer and I think there is no doubt that no patient should be operated upon during an attack of hæmorrhage, but, as we shall see in a moment, if operation is done it should be between the attacks. The mortality from sudden severe hæmorrhage is small; it may be very difficult to secure the bleeding vessel even when the stomach is opened; patients who are profoundly anæmic from severe loss of blood bear operations badly, and many persons bleeding furiously from what is thought to be a gastric ulcer have not any ulcer. If the bleeding from an ulcer is so severe that in spite of all medical treatment the patient dies I think we ought not to regret having neglected to open the stomach, for the patient would have died in any case and his chance of recovery would have been lessened by surgical interference. MacNevin and Herrick's figures are of interest in connexion with this subject, for of 55 cases of undoubted gastric ulcer, shown at a post-mortem examination, which died from either perforation or hæmorrhage, 25 died from hæmorrhage. Of these, 19 were males and six were females; of the 30 dying from peritonitis eight were males and 22 were females; and of the 25 of both sexes dying from hæmorrhage all except one female were 30 years of age or over. The patients who are thought because of their hæmatemesis to have a gastric ulcer and yet no ulcer exists form a considerable group which I have described elsewhere.[1] A few generations ago physicians thought that these cases existed, but they wrongly ascribed the bleeding to vicarious menstruation. When this view was shown to be untenable physicians equally wrongly thought that these cases were examples of gastric ulcer. I have collected 29 cases in which either a post-mortem examination or a careful inspection of the interior of the stomach during life showed that although there had been severe hæmatemesis yet no ulcer was present, nor was any commonly recognised cause—e.g., cirrhosis—found to explain the bleeding, and I have suggested that the condition might be known as gastrostaxis. Only two of my patients were males, so it is rarer in men than is gastric ulcer; further, it is much less often met with after the age of 40 years than is gastric ulcer. Inasmuch as it does not lead to perforation or to adhesions and dilatation of the stomach and the bleeding usually stops, the mortality of gastrostaxis is very low, and its rarity after 40 shows that it tends to get well. Further, when the stomach is opened during life while bleeding is going on the blood is often seen to be oozing from many points, so that it is surgically very difficult to stop the hæmorrhage and even if this is done the patients often later get further attacks of hæmorrhage. For all these reasons the patient should not be subjected to operation if she is thought to be suffering from gastrostaxis; indeed, several patients have died after operation and I have collected 24 cases operated upon with eight deaths or a mortality of 27·5 per cent.; therefore, as the disease is rarely fatal among those not operated upon we must conclude that several of these eight cases would not have died if they had not been subjected to operation. I cannot possibly in these few minutes discuss the causation of gastrostaxis or the diagnosis of it from ulcer; my only concern now is to point out that examples of it are not suitable for operation. Passing on to the chronic effects of gastric ulcer everyone will admit that a subphrenic abscess should be opened, but it is, I believe, a rare complication of gastric ulcer and a physician may be attached to a large hospital and yet meet with very few cases. The common chronic effects of gastric ulcer for which operation is desirable are adhesions, repeated hæmorrhage, and dilatation. Adhesions are no doubt a very common result of gastric ulcer and their symptoms are very perplexing. I am not sure but I think that they most often give rise to symptoms when they connect the stomach with the bowel, and this is what we should expect, for the stomach is constantly in close contact at the upper part of its pyloric end with the liver and at its back with the pancreas, so that actual adhesions in these situations with the pancreas or liver would hardly be likely to give rise to many symptoms, and the upper curvature and posterior surface of the stomach are the parts of it which alter their positions least, but its greater curvature descends when the organ fills and is liable to form adhesions with the bowels, and then either a movement of the stomach or one of the bowels will drag on the adhesions and so cause pain. The pain is often paroxysmal, the patient goes days or weeks without any pain, and then he has an attack; why there should be such a long interval between the attacks I do not know. The pain caused by adhesions is often very severe and if frequent the patient is quite unfit for work. He commonly complains that he does not know what brings it on and often it bears no relation to food. The ulcer may be quite healed, the patient has no indigestion, his tongue may be clean, indeed, he often suffers from nothing but the pain. In a bad case it may be constant, but even then there are acute paroxysms of greater pain, and the severity and frequency of these may be so great that his general health is undermined and he may lose flesh. Such cases—especially if there is no history of gastric ulcer—

[1] On Gastrostaxis, or the Oozing of Blood from the Mucous Membrane of the Stomach, THE LANCET, Nov. 3rd, 1906, p. 1189.

may be wrongly called abdominal neuralgia or hysteria. Sometimes there is distinct tenderness over the adhesions and sometimes an ill-defined obscure mass may be felt, giving such a feeling as we should expect to be caused by a mass of adhesions. This pain continues for years, indeed so long that it cannot be due to malignant disease. Careful examination of the patient and his history enables us to put aside floating kidney, biliary or renal colic, and so we are often able to come to a correct diagnosis, which is, of course, much easier if definite symptoms of a gastric ulcer or severe indigestion are, or have been, present, but the patient may lose flesh quite apart from these. If a careful and repeated consideration leads to the opinion that adhesions are present, and if the trouble they cause is not sufficient to mar the patient's life, an operation should be advised, for we know of no drug that will get rid of adhesions, but we must not promise certain success, for in a long-standing case, especially with a woman, so much neurotic trouble is added to the original disease and so deeply stamped on the patient's individuality that the removal of the adhesions—gastrolysis as the operation has been called—does not lead to the expected relief of all the symptoms, just as the stitching of a floating kidney does not always by any means relieve all the patient's trouble. It is notorious that diseases of several abdominal organs—e.g., kidney, stomach, and female generative organs—are particularly liable to be associated with neurosis. I remember a woman in whom the removal of adhesions led to complete relief of her pain so long as she remained in the hospital, when she returned to sympathetic friends the pain returned, and when she returned to the hospital again the pain disappeared. Still, in many cases, especially in men, the relief afforded by removal of adhesions may be complete. I call to mind the case of a man in whom a long adhesion was found connecting the stomach with the bowel. The paroxysms of pain were so frequent that work was impossible. He never had any pain after removal of the adhesion. He gained weight rapidly and was able to work hard. We must always remember that the adhesions may re-form and it will be interesting to hear from surgeons the best way of preventing this, but nevertheless there is no doubt that often complete relief follows their removal, and in the cases in which they are so extensive that it appears certain they will re-form, gastro-jejunostomy will often relieve the patient. It goes without saying that they may be so extensive that they cannot be removed, but the most extensive adhesions take place at the back of the abdomen and in this situation their removal is often undesirable and impossible, for the stomach is so ulcerated that the structures on the back of the abdomen are exposed; here, too, gastro-jejunostomy may be of service. From time to time we meet with cases in which repeated attacks of severe hæmorrhage compel the patient so frequently to give up his or her work that operation should be performed. Not long ago I saw a man who had had a very severe hæmorrhage necessitating a long stay in bed in September and another serious attack the following November. From this he did not pick up rapidly and remained so anæmic as to suggest that lesser bleeding continued from time to time although there was no hæmatemesis. Everyone must have had experience of such cases and I think that when an attempt to confer substantial improvement by medical means has failed the patient should be asked to see a surgeon with a view of performing a gastro-jejunostomy, and if this is done the risk of further hæmorrhage is greatly diminished. As has been already mentioned the practical difficulty is to know which are the cases of gastric oozing—or gastrostaxis—and which are the cases of genuine ulcer, a very important point, however, for gastrostaxis is hardly ever fatal if no operation is performed. On the other hand, if an operation is done the patient not infrequently dies or the bleeding continues. Many cases of gastric ulcer in which the hæmorrhage may or may not be severe suffer from serious indigestion as a result of their ulcer; they have much pain, are thin and often quite unfit for work, indeed, when we see the ulcers post mortem we can well understand why this should be so. Here again if repeated medical treatment has failed the question of operation should be put before the patient. I know of several instances in which such patients have been converted by gastro-jejunostomy from pale, thin, weak, miserable dyspeptics unable to work, to strong healthy members of society able to lead a hard working life. I need only mention for the sake of completeness that when a gastric ulcer cicatrises so as to form an hour-glass stomach, and severe symptoms are due to this, surgery should interfere. In passing I may perhaps allude to the fact that many patients are kept on rectal feeding far too long. All rectal feeding is starvation diet and therefore should never be long continued; an ulcer cannot be expected to heal if the sufferer from it is starving. Then subcutaneous feeding is not often used, though it may be. Sterilised olive oil may be injected subcutaneously night and morning. I have done this daily for a month. Half an ounce or more may be injected each time. Inasmuch as a person at rest in bed hardly requires more than at the outside 2000 calories a day we see that roughly about an eighth of the necessary energy may be given under the skin, and as fats are the very kind of food which are extremely badly absorbed from the rectum they are a very important aid to rectal feeding if it is decided that this must be continued for some time. But usually it need not be, for the chief reason why patients with a gastric ulcer are restricted in their diet is a fear of perforation. But there is a large group of cases in which adhesions render perforation almost impossible, and then perforation is rare in patients who have recently brought up blood. Moynihan gives the histories of 21 cases of perforated gastric ulcer and in not a single one is recent hæmatemesis mentioned. Therefore, if there has been recent hæmorrhage the risk that food by the mouth will lead to perforation is remote and it may be given carefully in small quantities a few days after the cessation of the hæmorrhage. Next we have to consider dilatation of the stomach. This is one of the most important evidences of ulcer, but for it to be important evidence it must be considerable; on the other hand, I do not think that in this country we often see great dilatation of the stomach unless due to growth or ulcer; hence, in cases in which growth can be excluded, extreme chronic gastric dilatation is almost proof that there is an ulcer which by its cicatrisation or the formation of adhesions has led to gastric dilatation. Whether or not a dilated stomach should be operated upon depends upon the degree of dilatation; many of the lesser degrees, if the stomach is washed out once in the 24 hours, will disappear even when thought to be due to an ulcer, but it may be that in some of these cases the diagnosis is at fault. As, however, with lavage and appropriate food they may get better the treatment should always be tried. If it succeeds, well and good; if it does not, and the dilatation is slight, the case must be most carefully reconsidered, for often the slighter degrees of dilatation are not due to pyloric obstruction, and unless dilatation is due to this operation can do no good. When, as is frequently the case with patients who come into the hospital, the dilatation is very great—the last patient I had under me used to vomit more than two quarts at a time—then operation may be advised even without going through a course of washing out, for such extreme chronic dilatation must be due to pyloric obstruction and will not benefit for long by lavage. The improvement that sometimes follows gastro-jejunostomy in such a case is very great; indeed, after a time the patient feels and appears quite well. As tetany is one of the results of gastric dilatation any operation for tetany is the same as an operation for gastric dilatation. There are some general propositions which apply to operation for any of the results of gastric ulcer and which must be borne in mind. No operation is quite free from risk; even in the 1905 edition (American translation) of von Bergmann's System of Surgery it is stated that the mortality in Mikulicz's clinic among the last 40 patients operated upon for benign affections of the stomach is 7·5 per cent., but, on the other hand, the mortality is decreasing. Paterson (1906) puts it down at 3 per cent., but, judging by the results obtained at Guy's Hospital, it has hardly yet reached nearly so low a figure. Anyhow, the patient must always be asked whether he prefers to take the slight risk or remain as he is. We can hardly ever say to him—unless perforation has occurred—if you remain as you are your ulcer will almost certainly kill you. Next, we must remember that some patients suffering from chronic ulcer are not relieved by operation; it may be that adhesions cannot be divided, or that even when a gastro-jejunostomy has been done pain and even bleeding may continue. Unfortunately, there are no means by which we can tell beforehand whether or not the patient will be relieved, but great relief follows operation sufficiently frequently for us to be able to say to a patient, for whom medical treatment has failed, that there is a very considerable prospect that he will be much better after an operation. In a few cases a peptic ulcer in the jejunum follows a gastro jejunostomy but these cases are

so few that they need hardly influence us much in the advice we give, especially as it will be impossible during life to say whether the symptoms are due to the persistence of those of ulcer or the formation of a peptic ulcer in the jejunum; and further, if Paterson's suggestion is correct that a jejunal peptic ulcer is due to hyperchlorhydria, which is itself due to an insufficient anastomotic opening, jejunal peptic ulcer ought to disappear with improved methods of operating, which will also probably get rid of the regurgitant vomiting which occasionally follows. I think the evidence is conclusive that the metabolism of the body is not appreciably altered by a gastro-jejunostomy, and even if there is a trifling diminution in the absorption of proteid this may be a blessing in disguise, for it seems that most of us habitually take more proteid than we require. I have been at considerable pains to look through the literature of the question as to whether a growth is particularly liable to develop upon an ulcer and also I have looked at many specimens. I have not been able to convince myself that any such liability is serious, and, at most, it is so slight that it need not weigh with us in considering operation. The greatest difficulty in deciding whether to operate lies in the uncertainly of diagnosis. No statistics from operations are of value unless the surgeon at the time of operation has seen the ulcer, or a considerable mass of adhesions originating in the stomach, or great dilatation of that organ. Numbers of young adults who would 20 years ago have been said to have an ulcer have not got one, they are examples of gastric oozing or gastrostaxis as it may be called, but as this condition is commonest in young subjects and in women it follows that we are most likely to be correct in our diagnosis of ulcer and therefore most likely to do good by operation if the patient is a man and over 30 years of age. Even if there is an ulcer and the patient is a woman probably the likelihood of improvement is less than if the patient is a man, for in women many neuroses that operation may not benefit are liable to be added to the symptoms of organic disease. We should, I would suggest, be very chary of operation—apart from that for perforation or abscess—without definite evidence of bleeding, because if there has been none it is quite likely that the case is one of neurotic dyspepsia, for this often cannot with certainty be diagnosed from gastric ulcer, and all experience shows that operation upon the stomach for gastric symptoms not due to ulcer or growth does no good and even makes the patient worse. I have not said more about the ultimate results for my colleague, Dr. H. S. French, has kindly undertaken to collect the results from Guy's Hospital and he will give them to you, but, speaking generally, the results of operation for chronic gastric ulcer in which medical treatment has completely failed to relieve are—if the diagnosis is correct—so frequently good that every patient ought to have put before him the reasons for and against operation. The statistics from Guy's Hospital put the question in a severely unfavourable light, for the patients were mostly those whose health was undermined by long illness, a large proportion were over 40 years of age, and many were operated on early in the history of these operations, in which operators are gaining skill daily.

Mr. A. W. MAYO ROBSON said that the only difficulty was how to condense into a short paper the points most appropriate for a useful discussion, for it was manifestly impossible in a short time to consider fully and to discuss the indications, limitations, and ultimate results of operations for all the non-malignant diseases of the stomach that might call for surgical treatment. The proposal of the council to limit the discussion to the indications, limitations, and ultimate results of operations in ulcer of the stomach and its chief complications was an eminently practical one and should lead to a useful discussion. He said he felt sure that gastric ulcer was a much more common disease than it was ordinarily thought to be. After referring to the observations of Debove and Rémond and those of Lenbe he drew attention to the careful investigations undertaken by Dr. C. V. Bulstrode at the suggestion of Mr. C. W. Mansell Moullin on 500 cases of ulcer submitted to medical treatment in the London Hospital from 1897 to 1902, and also to the more recent observations of Mr. H. J. Paterson and Dr. J. H. Rhodes at the London Temperance Hospital on 158 consecutive cases treated medically, which went to show that the proportion of real cures in cases of gastric ulcer after prolonged treatment by diet and rest in hospital is under 25 per cent. With this he compared the results of surgical treatment in the worst class of cases of ulcer suffering from relapse or from one or another of the serious complications. Arguing from his own experience alone in over 300 operations of various kinds, such as pylorectomy, excision of ulcer, gastro-enterostomy, pyloroplasty, and gastrolysis, undertaken for ulcer or its complications usually in patients at the time very seriously ill, the total mortality had only been 3 per cent., but the actual risk of posterior gastro-enterostomy, the most frequent operation undertaken in this class of cases, had in his experience only been 1·7 per cent. and the patients completely relieved had been fully 90 per cent.; and similar results had been obtained by other surgeons in various parts of the world—Ochsner, Mayo, Deaver, Hartmann, Kocher, von Eiselsberg, Monprofit, Moynihan, Littlewood, Munro, Brewer, Murphy, and others. From the point of view of treatment, he adopted the old classification of ulcers into two classes—acute and chronic. For acute ulcer he considered the treatment should be at first always medical, but if after thorough treatment extending over some weeks the patient was not relieved or relapse occurred the question of surgical treatment ought seriously to be considered. In chronic or relapsing ulcer in which medical treatment had been fully tried he thought that surgical treatment ought to be urged. Referring to the limitations of operation, he recommended a thorough investigation into all cases before operation, since surgical treatment was, as a rule, contra-indicated in purely functional cases, for when carried out it not only as a rule gave no satisfaction, but tended to bring discredit on the operative treatment of stomach diseases in general. He said that surgical treatment might be direct or indirect. By direct treatment he referred to excision of the ulcer-bearing area, which, though appropriate in certain exceptional cases, was on the whole more dangerous and less effective than gastro-enterostomy. Of the nine cases in which he had performed excision, though all had recovered, two had relapsed; and other surgeons had had a similar experience, this being probably due to other ulcers being present at the same time as the one excised. The fear of relapse might be overcome by the performance of gastro-enterostomy at the same time as excision. In considering the indirect treatment he did not advocate pyloroplasty on account of the danger of relapse as proved by his own and the experience of other surgeons, the proportion of cases relapsing or requiring a second operation being as high as 25 per cent. The operation above all others that seemed to him to be most efficient in the treatment of ulcer was posterior gastro-enterostomy, which he said acted by affording a free outlet from the stomach and preventing tension induced by spasm of the pylorus, thus avoiding stasis, relieving hyperchlorhydria, and securing rest. The ill-effects said to follow the operation of gastro-jejunostomy, such as regurgitant vomiting, hæmorrhage from the line of suture, post-operative adhesions, hernia through the loop or through the slit in the meso-colon, peptic ulcer of the jejunum, &c., he thought could all be avoided by correct technique, with the possible exception of peptic ulcer of the jejunum, the occurrence and treatment of which he referred to. The fact that he had not had a peptic jejunal ulcer occur in over 200 cases of posterior gastro-enterostomy showed that the danger was not one greatly to be feared. After referring to some details of technique which he considered important, he said that he preferred the posterior operation without a loop, which had given him most satisfactory results. He then discussed the statistics of gastro-enterostomy in his own and in the hands of other surgeons. In considering the serious complication of perforation, which was fatal in 95 per cent. of cases medically treated, the speaker dwelt on the importance of early operation, and although at present the mortality, even in cases operated on within 12 hours, was 25 per cent., he thought it might ultimately be reduced to 5 per cent., as in a continuous series of cases of early operation referred to in the paper. After discussing some points in the technique of operation, he said that in certain cases where the patients were not too ill to bear it gastro-enterostomy should be done at the same time, in order that other ulcers present at the time of perforation might be cured, and that perforation of a second ulcer might be prevented. The statistics proved that a second perforation or relapse due to continued ulceration occurred in a certain proportion of cases operated on for perforation. This he thought might be avoided were gastro-enterostomy done as a routine procedure in suitable cases. In considering the

complication of hæmorrhage in ulcer he dwelt on the importance of rigid rest and general treatment in all the acute conditions, especially in the form occurring in young anæmic women; but when the bleeding was associated with symptoms of ulcer and tended to recur, and especially when it occurred even slightly in chronic ulceration, he advocated surgical treatment, which might be direct or indirect. He compared the results of the direct and the indirect operations and gave statistics. On the whole he inclined to a judicious combination of the two procedures where the ulcer could be localised but advised the indirect treatment (gastro-enterostomy) where the site of the ulcer was not immediately apparent when the abdomen was opened. He then considered the surgical treatment of pyloric stenosis from ulcer, and stated his conviction that it was a mere waste of time to persevere with the use of drugs and lavage when the obstructive symptoms were definite and pronounced. After mentioning the various procedures that might be adopted he expressed his opinion in favour of gastro-jejunostomy, which gave excellent results in this class of cases. In some cases where the tumour causing stenosis was doubtfully malignant pylorectomy might be advisable, but in many such cases where adhesions had prevented a radical operation he had seen a complete cure to follow gastro-jejunostomy, showing that the tumour was inflammatory and not cancerous. In considering gastric tetany, one of the complications of dilatation, he said that he did not hold with the pessimistic view that gastric tetany was almost necessarily fatal, as an extensive experience both of the severe and mild forms had shown him that under efficient surgical treatment hardly any case was hopeless. He advocated gastro-enterostomy as the best operation. Hour-glass stomach was most frequently due to chronic ulcer, hence he considered this deformity to be a disgrace to modern medicine, as the disease causing it ought to be cured long before the advent of the complication. Of the many operations available, efficient drainage of both cavities was alone satisfactory and this might be obtained either by a double gastro-enterostomy or by gastroplasty and gastro-enterostomy combined. The results of the various operations were mentioned to show that relapse was liable to follow any procedure that did not secure efficient drainage. For perigastritis, a common sequence of ulcer, simple gastrolysis might occasionally be successful if the adhesions were limited and if omentum could be interposed between the adherent viscera, but when adhesions were extensive and giving rise to stasis a gastro-enterostomy might be necessary, and if the posterior operation was not feasible a Roux's anterior operation would be found advantageous. In conclusion, Mr. Mayo Robson said that he should like it to be understood that he did not advise operation in ordinary acute ulcer, the medical treatment of which, he thought, should be much more careful and more prolonged than was formerly considered necessary. Nor did he advise operation in chronic ulcer before medical treatment had had a fair trial, but he thought it was unfair to patients to advise a continuance of general treatment for chronic or relapsing ulcer until serious complications supervened when by timely surgical treatment many of them could be prevented. In perforating ulcer, in chronic or relapsing hæmorrhages, in pyloric obstruction or other mechanical causes leading to dilatation, he considered medical treatment was as inadequate and useless as was surgical treatment in gastric neuroses and other functional diseases, and to continue it beyond the period in which it could benefit was as unscientific and unwise as it was to operate and expect good results in improper cases.

Sir DYCE DUCKWORTH said that Dr. Hale White had done well to bring forward this subject at a time when the procedures of modern surgery in regard to abdominal operations compelled the serious attention of the physician and led him to take a larger view of the possibilities which might be in store for certain of his patients. With respect to gastric hæmorrhage in young women he was in full agreement with Dr. Hale White as to the undesirability of any operative interference in the majority of cases. It was certainly as rare for such hæmorrhage to prove fatal as it was for ordinary hæmoptysis, always excluding the rupture of a pulmonary arterial aneurysm. Under ordinary treatment such bleeding ceased. The source of it was more commonly from an erosion with many oozing points or fissure in the gastric mucosa. He was aware that successful operations had been conducted for this condition, and Mr. Butlin effected it in one of his cases. In another case one of his colleagues entirely failed to find the oozing points, although the stomach was everted and carefully studied. Death followed, and the bleeding surface was found very near the cardiac end, quite beyond any reach during life. There could be no doubt that gastro-enterostomy had proved a great boon for many rebellious gastric ailments, including chronic ulcer, dilatation, and adhesion to various adjacent structures, and no less for obstinate forms of dyspepsia which yielded to no form of medication or diet. He agreed with Dr. Hale White that minor degrees of dilatation might often be adequately met by washing out and appropriate diet, and as many patients refused surgical aid in these circumstances it was necessary to be content with medical measures. Dr. Hale White might hardly be correct in considering rectal feeding as "always a starvation diet." Dr. Sharkey in his recent Bradshaw Lecture had given good reasons for believing that this was not so and that they had still something to learn in conducting this method. He agreed that great care was necessary in deciding on any abdominal operation, and especially because in women forms of dyspepsia were often present which closely resembled those of chronic ulcer. He also regarded it as a duty of the physician to carry on the recognised treatment of gastric ulcer for a much longer period than was commonly practised. Absolute rest in bed and appropriate feeding—truly nutritious—for many weeks should be the rule, and these weeks might safely run into months. The patient should neither be hurried into the hands of the surgeons nor his best chance of relief imperilled by prolonging ineffectual treatment till he became an unsatisfactory subject for an operation.

Mr. B. G. A. MOYNIHAN submitted an analysis and commentary upon all the operations for non-malignant ulcer of the stomach that he had performed up to September, 1906. There were 334 operations in all. There were 27 cases of perforating ulcer. In the first 13 cases there were seven deaths; in the last 14 cases two deaths. Emphasis was laid upon the fact that when perforation occurred though the pain was excessive there was no collapse, the pulse-rate was not raised or only slightly raised, and abdominal rigidity was absent. These symptoms were developed only after two hours or longer. A diagnosis could be made from the history of the ulcer which in his experience was never lacking—the sudden onset and the continuance of intolerable pain, the restriction of abdominal breathing, surface tenderness, and resistance to deep palpation. In the majority of cases the position of the perforation could be accurately localised and the incision for the exposure of the ulcer was made to left or right accordingly. Gastro-enterostomy in addition to closure of the ulcer was necessary always in duodenal perforation and in cases where the closure of the ulcer caused narrowing of the stomach, not otherwise. In his series gastro-enterostomy was performed at once in six cases, five recovering. Lavage of the peritoneal cavity was not used now and drainage only in the late cases. Hæmorrhage was the cause of immediate operation only when it was recurring in increasing quantities at decreasing intervals. Gastro-enterostomy had been sufficient in many cases to cause cessation of the hæmorrhage, but excision of the ulcer, or preferably its infolding, as if it had perforated, should be adopted in all cases where feasible. In this series were 33 operations with six deaths. In the treatment of chronic ulcer of the stomach gastro-enterostomy had been the operation usually practised by him. The posterior no-loop operation was the best of all methods; the direction of the anastomosis of the jejunum to the stomach depended upon the natural direction of the bowel in the first few inches beyond the duodeno-jejunal flexure. This was sometimes to the left, sometimes vertical, sometimes to the right. Whenever the ulcer was seated at, or near, the pylorus and was causing obstruction, gastro-enterostomy gave excellent results. All ulcers in the duodenum and all near the pylorus on the stomach side should be infolded. Ulcers of the lesser curvature should be infolded or excised. Rodman's operation was applicable in cases of multiple ulcers in the pyloric segment of the stomach and Finney's operation in cases where an ulcer had to be excised. Gastrolysis was unreliable; if adhesions were interfering with the proper action of the stomach, other operations were preferable; if there was no impairment of action the operation was unnecessary. Pyloroplasty was never practised by him now. In this series were 248 operations with two deaths, equivalent to 0·8 per cent. In the last 151 operations there had been no mortality. Secondary operations

were performed on eight patients. Gastric tetany occurred in 14 patients; in all it was associated with marked dilatation of the stomach and pyloric stenosis. All the patients recovered after gastro-enterostomy; in one the most severe attack of tetany occurred 18 hours after operation. The after-results had been carefully ascertained in the 248 cases: four patients were no better; in ten cases the results were indifferent; in the remainder the results were good. The diagnosis of gastric ulcer, at one time a matter of some difficulty, was becoming progressively easier owing to the study of the pathology of the living that the surgeon was enabled to make. Duodenal ulcer was almost always diagnosed with ease and certainty from the anamnesis alone. Gastric ulcer could be diagnosed and its location in the stomach predicted in the majority of cases by attention to the duration of stasis of food in the stomach, the chemical reactions, the bacterial flora, the digestion leucocytosis, and the surface tenderness ascertained by Mackenzie's method. In the differential diagnosis from cancer a high value, though not a certain reliance, was placed upon chemical analysis. Hour-glass stomach was operated upon 26 times. It was therefore a more common condition than has been supposed. A diagnosis could always be made if attention were paid to the signs described in other papers. Four deaths occurred in this series, including one patient who died on the table from chloroform before the operation was completed. In the 334 cases of all kinds there were 21 deaths, a mortality equivalent to 6·2 per cent.

Dr. NORMAN MOORE then moved the adjournment of the discussion which was adopted.

LIVERPOOL MEDICAL INSTITUTION.

Death-rate of the Central Wards of the City of Liverpool.—The Health Temple of Hippocrates in the Island of Cos.—Exhibition of Cases.

A MEETING of this society was held on Nov. 8th, Mr. FRANK T. PAUL, the President, being in the chair.

Dr. HUGH R. JONES read a note on the Death-rate of the Central Wards of the City of Liverpool. He pointed out that, despite a large expenditure of money and the demolition of much insanitary property and the building of many model dwellings, the death-rate of Scotland Ward had not fallen as much as the death-rate of all England and Wales. The deaths of children under five years of age accounted for half the death-rate. Organised sanitation affected only early maturity. The density of population in Scotland Ward was greater now than it was 15 years ago. He recommended the opening up of closed courts, the utilisation of school yards as playgrounds, &c., rather than a waste of public money on wholesale demolition. The landlord was to blame as well as the sanitary authority for not enforcing the wholesome provisions of the Housing Acts. He declined to discuss the social aspect inasmuch as he believed that the sanitary authority had a definite duty imposed upon it by the legislature.—Dr. WILLIAM CARTER believed that in omitting any reference to the personal element the reader of the note had omitted the most important factor in the production of a low or high death-rate. He instanced cases of similar courts in which the same vicious structural defects, tunnel entrances, back-to-back houses, common trough closets, &c., were found but in which there was no other resemblance. In one court order, cleanliness, decency, and apparent good health prevailed; in the other disorder, filth, and obvious ill-health, the reason of the difference being that drunkenness was the rule in one and sobriety in the other. When children came to be taught the principles of temperance and hygiene as part of their school curriculum they might hope for an elevation of personal character and as a result diminished drunkenness and diminished mortality.—Dr. RICHARD CATON remarked that during the past 38 years great improvement had taken place, overcrowding had diminished, the death-rate had fallen, and order and sobriety had advanced. But much yet remained to be done—insanitary property still existed. Many of the more respectable working people had moved away from the district, leaving behind the less satisfactory residuum. There were still drunkenness and too much sacrifice of child life through ignorance and neglect.—Dr. W. PERMEWAN, Dr. A. STOOKES, Dr. B. W. BAKER YOUNG, and Dr. STANLEY A. GILL also spoke.

Dr. RICHARD CATON delivered a most interesting lecture on the Recently Discovered Health Temple of Hippocrates at Cos. The lecture was profusely illustrated by limelight views of the island and of the recently excavated remains and by plans and "reconstructions" of the ancient temple and sanatorium. Dr. Caton said that the site, about two miles from the modern town of Cos, had remained unknown for centuries. Professor Rudolf Herzog of Tübingen began to investigate this site three years ago and had been rewarded by the discovery of interesting remains of the ancient temple and precinct. They consisted of three terraces arranged in steps on the mountain side. A vast number of ancient earthenware pipes brought water to the baths and fountains, probably from the spring of Hippocrates and from the celebrated red water, or iron spring, a couple of miles higher up in the mountains. The north side of the quadrangle contained many rooms—dispensary, library, and rooms for teaching purposes—for Cos was a medical school. About the centre of the second terrace there stood a huge altar, reminding the visitor of that of Pergamon. To the west of the altar stood an ancient Ionic prostyle temple divided into a "naos" and "pronaos." On the south side of the "naos" the floor contained a large rectangular coffer or cyst, composed of great slabs of marble, each a foot thick. The coffer was about five feet long, four feet in breadth, and three feet in depth. The massive block which formed the lid was pierced in the centre by an aperture about six inches in diameter. Professor Herzog believed this to have been a treasure chamber. The extreme difficulty of removing the massive lid in order to deposit or to remove treasure led Dr. Caton to believe this to have been the Ophision, or home of the sacred serpents, from which they emerged when fed by votaries with the "popana" or cake offerings. Probably also a bronze tripod stood adjacent, on which incense and bloodless sacrifices were offered to the god in his serpent form. The sanctuary had no theatre or stadium, those of the town of Cos being easily accessible. The sacred grove of cypresses surrounded the upper part of the temple on three sides.[1]

Dr. YOUNG showed two patients who were under treatment for Pulmonary Tuberculosis by the Intravenous Injection of Formalin.—Dr. JOHN HAY, who had seen the cases before and after treatment, thought that some improvement had taken place since he had last examined the patients.

Extroversion of the Bladder.—Prehistoric Skeleton.—Exhibition of Specimens.

A pathological meeting of the society was held on Nov. 15th, Mr. FRANK T. PAUL, the President, being in the chair.

Dr. R. E. KELLY read a note on a case of Extroversion of the Bladder. It was curious in this respect: there was not only extroversion of the bladder but also of the intestinal mucous membrane, the latter structure being central and bounded laterally by the separated bladder halves. This central mucous area also showed a prolapsed upper opening into the fore gut and a second prolapsed opening into the undeveloped hind gut only represented by two inches of undifferentiated bowel. There were an imperforate anus and a spina bifida. The interesting feature of the specimen was the support that it seemed to give to the allantoic origin of the urinary bladder.

Dr. CHARLES A. HILL gave a short description of a prehistoric skeleton lately discovered in a limestone cave in Upper Wharfdale. The skeleton, which is as yet incomplete, was shown. From the measurements of the brachycephalic skull it has been identified as that of a female Celt, about 45 years of age. The teeth show signs of considerable attrition. The presence of an irregularly-shaped hole above the right mastoid process was discussed as being the possible cause of death and the remote position of the bones in the cave was mentioned. A brief description of the cave itself was added.

Dr. A. G. GUILLAN showed the Stomach and Intestines from a girl, aged 19 years, who had died suddenly in hospital from syncope. She had manifested all the typical symptoms of gastric ulcer—i.e., hæmatemesis, tenderness in the epigastrium and over the stomach on pressure, with marked anæmia, gastric pain, &c. The stomach showed no gastric ulcer but numerous small hæmorrhagic erosions scattered over its mucous membrane which was congested in certain patches. These erosions were most numerous in the pyloric portion. The duodenum was very congested and showed similar small erosions chiefly in its second portion.

[1] For a full account of Dr. Caton's visit to Cos see THE LANCET, March 10th, 1906, p. 693.

The jejunum was less affected but the ileum was markedly swollen and congested in patches and contained numerous hæmorrhagic erosions or points from which small quantities of blood exuded and many old sub-peritoneal hæmorrhages were scattered all over its surface, some of which were petechial in character.

Dr. GULLAN also exhibited the Heart of a man, aged 22 years, who had been under his care for four years suffering from morbus cæruleus and pulmonary stenosis, the clinical features of whose case he described in the *Liverpool Medical Journal* in the year 1902. The patient had ultimately died from tuberculous disease of both lungs. The interesting features of the heart were a very narrowed pulmonary orifice, through which only a small quill could pass and which opened into a dilated pulmonary artery. The ventricle was single and hypertrophied, being only partially subdivided by the septum inferius of His. Only one auriculo-ventricular orifice was present and that opened from the dilated left auricle, the right auricle being small and having a large patent foramen ovale through which all its blood passed. The aorta and aortic valves were normal and the ductus arteriosus though present and well developed was obliterated.

Dr. T. W. P. LEIGHTON described the method of preparing, and showed specimens of, Slices of Organs (including one of anæmic infarction of the liver) mounted in flat shallow cases made from old photographic dry plates. Four narrow strips of plate glass are sealed with the aid of heat by means of solidified Canada balsam round the margin of one of the plates, a space being left at one corner to allow of finally filling the case with glycerine jelly; the slice to be mounted is drained fairly dry and placed in the centre of this narrow cell and another dry plate is sealed over it by heating the edges gently till the balsam melts once more. Glycerine jelly is poured in finally by means of a thistle-head funnel, the tube of which is drawn out fine in the flame to enable it to enter the hole left for it. These cases are strong and permanent. Some of the specimens exhibited were three years old and showed no signs of deterioration. There are no vacuoles due to inclusion of air and the cost of making them is very small.

Dr. K. W. MONSARRAT showed: (1) A Sarcoma of the Kidney removed from a child, aged three years, which weighed two pounds six ounces, was round-celled in type, and uniform in structure; (2) a Cylindro-epithelial Carcinoma of the Transverse Colon removed from a man, aged 40 years; and (3) a section from a case of Lupus showing Marked Hypertrophic Down-growth of the Surface Epithelium.

EDINBURGH OBSTETRICAL SOCIETY.

The Future of Obstetrics.—Occipito-Posterior Presentations.

A MEETING of this society was held on Nov. 14th, Dr. J. W. BALLANTYNE, the President, being in the chair.

The PRESIDENT gave his inaugural address on the Future of Obstetrics. After a forecast of improvements in obstetrical methods during the next 40 years he proceeded to consider the reduction of the birth-rate. He said that in Edinburgh in 1871 the natality was 34·8 per 1000 (about the same rate as for England and Wales at the same time); but in succeeding decades it declined so that in 1881 it was 32·2; in 1891 it was 28·2; in 1901 it was 24·99; and in 1905 it was 22·99. The matter could be looked at in another way as follows: in 1881 the population of Edinburgh was 228,000 and the births were 7360; in 1905 the population had increased to 336,000 and the births were 7741, whereas if the same rate had been maintained the births would have been 10,846, thus showing a shortage of 3000 infants. Edinburgh occupied almost the worst position in this matter of a falling birth-rate. Of the 16 large towns of England and Scotland, Bradford was the only one that had a lower birth-rate than Edinburgh. The death-rate had also fallen from 18·86 in 1881 to 14·25 in 1905 and, as already mentioned, the birth-rate had fallen from 32·23 to 22·99. If this rate of descent was continued for a quarter of a century the two rates would be almost equal, but as the birth-rate was falling more rapidly than the death-rate a time would soon come when any increase in the population would be due to immigration. The falling birth-rate was aggravated by the heavy death-rate in the first year of life. Yet in 50 years this rate was only very slightly improved. Another aggravation was the want of knowledge with regard to the stillbirth-rate and the abortion-rate of the country. The still-births in 1901 were 47·6 per 1000 live births and in 1905 they were 56·3. Applying these statistics to England and Wales it meant that the still-births had increased from 44,270 in 1901 to 52,350 in 1905. The abortion-rate was high; it was calculated that one in every five gestations ended in abortion. Excluding primiparæ and the women under 30 years of age, from 100 cases in the Edinburgh Royal Maternity Hospital it was found that eight out of the other 21 women had aborted. That meant that 38 per cent. of the women who had reached the middle of reproductive life had aborted. Another aggravation of the falling birth-rate was the premature-birth infantile mortality, which had steadily increased; in 1865–74 it was 11·9 per 1000 in England and Wales; in 1875–84 it was 13·7; in 1885–94 it was 16·8, and in 1895–1904 it was 19·8. The most striking thing was that this increase began as soon as, and no sooner than, the birth-rate commenced to decline. The evils of the falling birth-rate could not be eliminated, but the aggravation could be checked. Resuming the forecast of the future with which he commenced his address, the President said that the race would see that the unhappiness of a city without a child was the result of an attempt to reduce the birth-rate and that the experiment was a failure. The birth-rate would then begin to rise, the hygiene of pregnancy would be studied more and more, and patients would consult their medical attendants about the rules of health during pregnancy. Then, also, there would be a marked advance in the knowledge and treatment of ante-natal maladies and stillbirths from fœtal diseases and defects would become rare. Embryulcia and all destructive procedures would yield to methods which give a chance of survival to the child.

Dr. J. LAMOND LACKIE read a paper on the Managament of some Occipito-Posterior Cases. In the first case described the patient was a primipara. The first stage was very slow and even with strong pains no progress was made after the os was three inches in diameter. The position was right occipito-posterior. Inertia uteri set in, so chloroform was given, the os was dilated with the fingers, and forceps were applied. Strong traction was made but the forceps suddenly slipped. Flexion of the head with an attempt at rotation failed. Forceps were applied to the occiput but again slipped, and this occurred several times. At length a grip well back over the occiput held and the child was delivered face to pubes. There was no pelvic deformity in the mother. The second patient was in labour with her second child, who presented in the right occipito-posterior position. After some hours no advance could be detected with the pains and forceps were applied under chloroform. They slipped several times, even when applied well back towards the promontory of the sacrum; the head could not be made to enter the pelvis. Dr. Lackie then tried to turn the child's head round, at the same time endeavouring to turn the shoulders by external manipulation. He could move the head but not the shoulders and the head reverted to its previous position immediately. He then inserted his hand past the head and with two fingers on the right shoulder and with the left hand acting through the abdominal wall, he with great ease turned the child right round till it occupied the left occipito-anterior position. Delivery was then easily effected by forceps. The child was alive and weighed ten and a half pounds. The mother had no pelvic deformity. In her first labour forceps were applied only to bring the head past the perineum. In all text-books reference was made to artificial rotation of the head after the head had reached the pelvic floor, but only a few, and these were foreign works, recommended rotation of the head when it was high up or above the pelvis. In this country the value of artificial rotation of the whole child when the head refused to enter the pelvis had not been duly appreciated.

The following were elected office-bearers for the ensuing session:—President: Dr. J. W. Ballantyne. Vice-Presidents: Senior, Dr. D. Berry Hart; junior, Dr. William Fordyce. Treasurer: Dr. William Craig. Secretaries: Dr. J. Lamond Lackie and Dr. G. F. Barbour Simpson. Librarian: Dr. F. W. N. Haultain. Editor of Transactions: Dr. Angus Macdonald. Members of Council: Dr. N. T. Brewis, Dr. J. M. Munro Kerr (Glasgow), Dr. A. H. Freeland Barbour, Dr. J. Haig Ferguson, Sir J. Halliday Croom, Dr. Samuel Sloan (Glasgow), Dr. W. Macrae Taylor, and Dr. E. W. Scott Carmichael.

ROYAL ACADEMY OF MEDICINE IN IRELAND.

SECTION OF SURGERY.

Exhibition of Cases and Specimens.

A MEETING of this section was held on Nov. 2nd, Mr. HENRY R. SWANZY, the President, being in the chair.

Mr. J. F. L. KEEGAN showed a boy, aged seven years, whom he had trephined for Intracranial Abscess. The boy was admitted into Jervis-street Hospital, Dublin, on April 26th, suffering from an extensive scalp wound caused by his having been knocked down by a tramcar. He had not lost consciousness. The wound was sutured. Two days after this the scalp began to slough and suppuration established itself in spite of free drainage. On May 13th, nearly three weeks after the accident, his temperature rose to 100° F. and his pulse rate to 115, and he became convulsed. The first fit began by twitching of the facial muscles on the side opposite to the wound—namely, the left side; the left hand was contracted; the left leg and arm were in a clonic condition; and the patient was unconscious. The fit lasted for about ten minutes when it passed off, leaving the patient pale and weak. Between May 14th and 16th he had three more fits and had begun to lose the power of the left arm and leg. On May 17th he had as many as 14 seizures. On May 18th the scalp wound was opened, exposing the bone over the Rolandic area; it looked dry and yellow and was evidently necrosed. A trephine was applied over this area of bone and as the instrument worked inwards pus welled up. On removal of the piece of bone a large collection of pus was evacuated; there was no pulsation in the area of brain substance exposed but it was very tense. The tense dura mater was incised and a trocar was passed downwards and inwards into the brain substance. Nothing escaped but a little blood. The cavity between the dura mater and bone was drained by strips of iodoform gauze. The patient's temperature dropped from 102° to 100° but, as he had two fits during the night, on the following morning more bone was removed with bone forceps and drainage continued. On May 21st pulsation was visible over the affected area; there were no more fits; his temperature was 100°. From May 21st to 27th his temperature was normal; there were no fits and he improved so rapidly that he was allowed to leave his bed. On June 8th a large graft of skin was taken from the boy's thigh and applied over the raw surface; this united well and completely covered in the brain substance. There had not been any recurrence of the fits, all signs of paralysis in the limbs had disappeared, and the brain was covered by a firm skin covering. The intracranial suppuration was evidently produced by a septic osteomyelitis secondary to suppuration in the scalp. There was possibly a fissured fracture of the skull, through which the pus travelled, causing the intracranial abscess to form.—Mr. R. C. B. MAUNSELL, in discussing the case, alluded to another case of a boy from whose skull a large part of the frontal bone had to be removed on account of severe injury. A large pulsating area remained after the healing process was completed but no subsequent operation was undertaken and no harm resulted. He would therefore advise against future intervention in Mr. Keegan's case.

Mr. ROBERT H. WOODS showed a case of a woman whose Throat had been accidentally Cut, 15 months ago, through a carriage accident. All the tissues from the front of the neck to the vertebral column had been severed by the broken edge of a pane of glass. A cicatricial diaphragm afterwards grew horizontally across the pharynx, behind the hyoid bone, shutting off the mouth and pharynx above from connexion with the larynx and gullet below. Respiration was carried on through a tube inserted in the thyro-hyoid space, and feeding was only possible by removing the breathing tube and passing an œsophageal tube through the opening. A small opening, large enough to admit a fine probe, was found to exist in the centre of this diaphragm. The problem to be solved was how to enable the woman to speak so that she might carry on her occupation as a typist. Mr. Woods dilated the opening by a series of bougies till its diameter was sufficiently great to hold a tube through which she could breathe comfortably. This could not be put in without making some provision for the evacuation of the saliva which was constantly trickling into her pharynx, and which, before she came under his care, lay in a pool over the pharyngeal diaphragm. Mr. Woods showed an apparatus consisting of a double tube bent in the middle, by which he overcame these difficulties; the patient could talk, breathe, and sleep very well, and was not in the least troubled by saliva trickling into her larynx.

Dr. R. A. STONEY exhibited a case of Malunited Supramalleolar Fracture after operation. The patient was a man, aged 40 years, who was admitted to hospital last Christmas. He had sustained a supra-malleolar fracture of both bones of the right leg ten months previously. The bones had united in a bad position, with outward displacement of the foot, causing great pain when he walked. At the operation callus was cut through and the bones were refractured. The foot was then brought into position and the tibia was wired. He returned a month ago complaining of pain on pressure, felt on the inner side of the leg above the ankle. This was found to be due to the wire which was immediately under the skin. After removal of this he was able to walk perfectly without pain.

Dr. W. S. HAUGHTON showed two patients each of whom had simultaneously sustained a Compound Fracture of one Femur and a Simple Fracture of the other Femur. One was a boy, aged seven years, and the other was a man, aged 62 years. Each of these could now walk very well and bear his full weight on either leg. The treatment in the two cases was similar. The limbs were scrubbed for 20 minutes with soap and hot water, followed by ether and alcohol (or biniodide in alcohol), and the wounds were douched for 20 or 30 minutes with normal saline solution alone at body temperature, several gallons being used. Silkworm gut drains were then passed into all the wounds and sterilised dressings were applied. An anæsthetic (ether) was given and plaster of-Paris bandages were at once applied from the toes to the axillæ, covering both legs and trunk, leaving a suitable cleft for urination and defæcation. During the plaster application extension was maintained in the boy's case by Dr. Halahan's apparatus and in that of the man by a modification of Professor Kocher's.—Mr. EDWARD H. TAYLOR said that it was a question whether the employment of plaster-of-Paris, as a rule, immediately after the occurrence of fracture was advisable. In Dr. Haughton's hands and in the hands of other hospital surgeons cases so treated had done well, but in the hands of less skilled individuals such treatment might be attended by considerable risk. His own practice was to place fractured limbs in splints for a few days before applying plaster-of-Paris.—Mr. J. LENTAIGNE expressed himself strongly in favour of the application of plaster immediately after the injury and had made it a practice for years with most satisfactory results.—Mr. G. J. JOHNSTON said that in his opinion it was better to wait for the subsidence of swelling before applying plaster.

HARVEIAN SOCIETY.—A meeting of this society was held on Nov. 8th, Dr. F. W. Cock, the President, being in the chair.—Dr. Herbert R. Spencer read a paper on the Treatment of Extra-uterine Pregnancy. Having quoted the statement of Professor John W. Taylor that 95 per cent. of cases died if not operated on, and the statement of Professor Hirst that no other treatment was worthy of consideration, Dr. Spencer remarked that this teaching was not in accordance with the experience of Schauta, Thorn, Febling, Guseron, Champneys, and himself, whose statistics, amounting in all to 963 cases, showed a total mortality of about 4 per cent. Of these, 549 were treated without operation with one death. His own cases at University College Hospital amounted to 60 in 19 years. Two were in the second half of pregnancy with living children; both were operated on and one died. The remaining 58 were in the first half of pregnancy; 14 were operated on with one death and 44 were treated without operation and all recovered. Consideration of the above statistics showed that from half to three-quarters of all cases of ectopic pregnancy did not need operating on. The cases requiring operation were: (1) cases of rupture (which was from three to eight times as rare as tubal hæmorrhage and abortion) with free intraperitoneal hæmorrhage; (2) in the second half of pregnancy (which were rare); (3) cases which could not be carefully watched; and (4) large and infected hæmatoceles. The great bulk of the cases, consisting of small hæmatoceles and moles, could be safely treated conservatively.—Dr. Wilfred Harris read a paper on the Causation and Treatment of Some Headaches. The varieties of headache considered on this occasion, he said, were the paroxysmal or

periodic headaches and those dependent upon some form of toxæmia. Many periodic headaches were of the form known as true migraine, a hereditary neurosis, probably dependent upon some paroxysmal vaso-motor derangement. After describing the mode of onset and the type of headache, Dr. Harris remarked that these migrainous headaches very commonly commenced in early life, and lasted until well past middle life, recurring at varying intervals, but usually diminishing in severity and frequency as the years passed. If gout or tuberculosis or other cause of frequent pyrexia supervened, the headaches as a rule disappeared. The attacks often came on without any previous warning, just as epileptic attacks might do, the patient being apparently in his usual health; yet they were liable to be precipitated by the same causes that were liable to bring on a fit in an epileptic subject—namely, great excitement, late hours, a crowded room, and a bout of drinking; or in women the menstrual period. Constipation was by no means always present, the tongue was often clean at the commencement of the attack and there was no reason to ascribe this class of case to a toxæmia of intestinal origin. If the headaches were of frequent recurrence it was best to treat them between the attacks with bromides on the same lines as a case of epilepsy would be treated, with a mixture of the three bromides. The actual headache was often relieved best if taken early, preferably during the stage of scintillating scotoma, by a strong dose of butyl chloral hydrate and phenazone. Another drug that might often bring almost immediate relief was nitro-glycerine, by reducing the cerebral arterial pressure. Dr. Harris next discussed the pathology of migraine, giving reasons and describing cases which supported the hypothesis that in migraine there was a primary stage of arterial spasm, which was succeeded by vascular engorgement which directly produced the headache. He next referred to periodic headaches which might resemble true migraine somewhat closely, and yet were less dependent upon a hereditary neurosis and paroxysmal vaso-motor spasm than upon some peripheral cause, which by its local irritant effects might set up reflexly a migrainous attack. These cases in their pathology would be strictly analogous to reflex epilepsy, such as convulsions dependent upon the peripheral irritation of worms, the irritation of a scar, &c., and he made the point that although the attack of migraine resembled true migraine, yet the peripheral cause in these cases was the most important element in their causation, and the removal of this might be followed by complete cure of the periodic headaches. Toxæmic headaches might be due to the administration of drugs, as alcohol, iron, and nitro-glycerine, or might be dependent on an acute infective process as typhoid fever, small-pox, pneumonia, malaria, or influenza. Thirdly, it might be due to faulty metabolism in organic disease of the liver, as alcoholic cirrhosis, or to a functional derangement of that organ. The headache that was so common a feature in gouty conditions was perhaps partly due to deranged action of the liver, by which the purins and other uric acid antecedents were permitted to circulate in the blood, and partly to a faulty diet containing an excess of those bodies. Possibly excess of carbohydrate foods might also predispose to headaches, the condition lately described as hyperpyræmia.

FORFARSHIRE MEDICAL ASSOCIATION.—The first meeting of this society in the present session was held on Oct. 12th.—Professor C. R. Marshall delivered an address on the Swedish System of Physical Culture and its Therapeutic Application. He said that the aims of physical culture were to produce a relatively uniform development of the muscular system and to bring all muscular acts which were common to every-day life under the immediate control of the will, incidentally leading to a better carriage of the body, to grace of movement, and to a healthier life. Ordinary recreations did not fulfil these functions as they developed one group of muscles more than another. In most schools the gymnasium was too freely open and the chief object appeared to have been to induce exhaustion by a limited series of exercises in the shortest possible time. A properly devised system of physical education was one which should be recreative but should have for its primary object the healthy development, not a pathological hypertrophy, of all the muscles of the body. The best was that of Ling, which was now known as the Swedish system, and was adapted to any age, to any place, and to any degree of proficiency. It could be sufficiently varied to avoid monotony and if properly taught it required sustained mental effort. It could also be adapted to therapeutic purposes. Professor Marshall, with the assistance of Mr. Kimber (Director of Physical Training in University College, Dundee), demonstrated various lessons and exercises. He showed how these might be applied as correctives in lordosis, kyphosis, and flat-foot, and the value of such exercises in the treatment of abdominal conditions, constipation, cramps, paralyses, respiratory and heart affections was also pointed out.—The second meeting of the session was held on Nov. 8th, Mr. D. M. Greig, vice-president, being in the chair.—Mr. Greig read notes of a case of a man, aged 49 years, who suffered from Recurrent Attacks of Alopecia Areata preceded and accompanied by most marked signs of nervous disturbances. There was an extremely neurotic family and personal history, the latter extending over a period of 30 years. Several of his relatives were confined in lunatic asylums and others had died from cerebral conditions. The patient was a man, leading a healthy outdoor but somewhat irregular life; he was fairly sober; there was no syphilitic history. He had an attack of herpes in the side at 19 years of age and a few years later in the head. For many years he was afflicted with somnambulism, always to a greater extent when alopecia was present. The alopecia first appeared after the herpes of the head and affected one whisker, passing to an eyebrow and then to patches on the head; with this and subsequent attacks he had premonitory symptoms of dryness of the skin and itching, and frequently of pain, especially at the site of the herpetic lesion. The condition of the hair ran the ordinary course; local and medicinal treatment had little effect, but frequent small blood-letting was the only treatment found to modify the general symptoms.—Dr. G. Halley read a paper entitled "The Surgical Out-patient Room." He said that the majority of the surgical cases seen in the out-patient room of the Dundee Infirmary were accident cases, and the nature of the most numerous of these was mentioned. The next in order of numbers were cases of skin disease, of which eczema was the most frequent. Seborrhœa and dermatitis of the scalp in children, impetigo, scabies, favus, and ringworm followed. The difficulties in treatment of cases affecting the scalp were mentioned, chief of these being refusal to have the hair cut.

INCORPORATED SOCIETY OF MEDICAL OFFICERS OF HEALTH.—A meeting of this society was held on Nov. 9th, Dr. D. S. Davies being in the chair.—Mrs. Sidney Webb (a member of the Royal Commission on the Poor-law) read a paper upon the Relation of Poor-law Medical Relief to the Public Health Authorities. She said that the so-called Poor-law principles in the treatment of disease were being undermined in all directions. There were still to be met fairly educated persons who declared that the gratuitous treatment of illness at the public expense should be strictly limited to individuals who were technically destitute, that its cost should whenever possible be recovered from relatives legally liable or be made a loan to the patient, and that it should be stigmatised and penalised as pauperism. On the other hand, it had been suggested that the new departures of public health authorities were indispensable and that their action had no pauperising effect. The question arose whether two conflicting public medical services, both State paid, overlapping, working on diametrically opposite lines, and sometimes positively hindering each other's work, could possibly continue to exist. Mrs. Webb suggested that the time had now come when in each local government district of convenient area and population there should be established one principal medical officer of health, invariably salaried, and giving up his whole time to his duties, having under him not only the local registrars and the sanitary inspectors and vaccination officers but also a qualified staff of health visitors, some of whom should be nurses and others should be qualified medical practitioners; responsible as well for the administration of all the local hospitals and infirmaries for different diseases and classes of patients, all having their own several staffs; and controlling also, working in conjunction with these indoor staffs, an adequate staff of visiting practitioners, who should visit all such persons as desired their professional aid and who were reported as physically needing it. All this came to little more than what was being actually done to-day in those cities which enjoyed both an active public health department and an energetic Poor-law medical service.—In the discussion which followed Dr. Joseph Groves pointed out that formerly the Poor-law medical officers performed public health functions and were not a success.

He maintained that the duties of the medical officer of health were quite distinct from those of the parish medical officer.—Dr. Francis T. Bond said that while he was in agreement with Mrs. Webb's proposal he viewed it as a counsel of perfection and considered that before there could be any hope of realising its main features it would be necessary to subject the members of local authorities to a prolonged process of education.—Dr. H. Meredith Richards said that, in his opinion, an attempt ought to be made in the first instance to unify the work which had been already begun. He maintained that as soon as medical work in connexion with schools was thoroughly inaugurated it would be found almost impossible not to undertake treatment. The alternative to Mrs. Webb's scheme was the practitioner taking very low fees who could not possibly carry on his work with credit to himself or with benefit to his patients.—On the proposal of Dr. Louis C. Parkes it was decided to ask the council of the society to consider the propriety of tendering evidence on the question before the Royal Commission on the Poor-laws.

DERMATOLOGICAL SOCIETY OF LONDON.—A meeting of this society was held on Nov. 14th, Mr. Willmott H. Evans being in the chair.—Dr. Wilfrid S. Fox showed: 1. A case of a Bromide Eruption in an infant. There were numerous warty-looking tumours upon the limbs. A prescription containing bromide of potassium had been given by a local practitioner, but this was dated after the eruption had commenced to show itself. It was, however, probable that a mistake in dates had occurred. 2. A case of Recklinghausen's Disease in a woman, aged 45 years, who had had the small tumours (soft fibromata) since the age of 12 years. She complained of tenderness in the tumours, which was an unusual feature. She had had epileptiform seizures, not of a Jacksonian type, since the age of 20 years, and was remarkably hysterical. A section of one of the small tumours was shown and nerve-fibres were distinctly visible in the body of the fibroma.—Dr. E. G. Graham Little showed: 1. A case of Pityriasis Rubra, primary in onset, in a boy, aged 12 years. He had had a previous attack of the same nature seven years ago. In neither attack had there been any preliminary skin disease. The boy had been very ill and had been an in-patient at St. Mary's Hospital for two months. The eruption had been absolutely universal but had now improved. The nails were typically affected, and the hair had been largely shed. 2. Two cases of Dermatitis Herpetiformis, one in a man, aged 23 years, and the other in a boy, aged eight years. The man had had the disease nearly continuously for about five months. He was a very nervous patient and had complained of peculiar premonitory sensations before individual outbreaks of the eruption. His blood showed a proportion of about 11 per cent. of eosinophiles. In the boy the eruption had appeared acutely after an accidental immersion in water. There were numerous large blebs, as well as small vesicles grouped in a herpetiform manner.—Dr. J. A. Ormerod showed a case of Lichen Planus in a woman, the chief interest of which lay in the fact that the face was the seat of a vivid erythematous eruption which suggested lupus erythematosus. It was generally agreed that it was probably, however, an unusual form of lichen planus. There were unmistakeable lesions of lichen planus on the hands and legs.—Dr. J. H. Sequeira showed a case of Typical Lupus Vulgaris of the Face, with infiltrated masses of "erythema induratum" on the right leg, and on the same leg, and confined to it, an eruption of acne scrofulosorum. The association of all these different tuberculous manifestations, together with the asymmetrical arrangement of the eruption of acne scrofulosorum, excited great interest.

HUNTERIAN SOCIETY.—A meeting of this society was held on Nov. 14th, Mr. John Poland, the President, being in the chair.—There was a discussion on Gonorrhœa, in which Dr. Lewis A. Smith dwelt first on the disguises under which this disease was seen by physicians, particularly mentioning albuminuria, appendicitis, lumbago, and pyæmia. He then made some remarks on gonorrhœal arthritis, emphasising the importance of the œdema that was generally found with it, and pointing out that it was specially likely to occur in patients who were rheumatic or "run down" from any cause. He asked for a surgical opinion on the best method of treating chronic cases in which the patient's mind was distressed by the fact that the urine contained threads.—Mr. Ernst Michels condensed his remarks into a series of statements regarding gonorrhœal arthritis, among which were the following: (1) arthritis might occur at any stage, but was more frequent in late stages; (2) it was not less common in women than in men; (3) many joint affections that were called "puerperal" were really gonorrhœal in origin; (4) some cases of rheumatoid arthritis of the fingers might have been gonorrhœal originally; and (5) the best results were obtained by the constriction treatment.—Dr. H. Russell Andrews discussed various points regarding gonorrhœa in non-pregnant women, in pregnancy, in labour, and in the puerperium. He laid stress on the importance of avoiding in labour and during the puerperium any measures that might favour the ascension of the gonococcus from the vagina to the uterus.—Mr. W. J. McCulloch Ettles read a paper on the Prophylaxis, Genesis, and Treatment of Gonorrhœal Ophthalmia. He considered silver nitrate to be a more trustworthy application than any of the organic compounds of silver. He dwelt on the importance of preventing pressure on the cornea and advocated division of the outer canthus in adult cases. He preferred warm to cold applications as tending to prevent ulceration of the ill-nourished cornea.—Dr. J. P. Zum Busch described a case of gonotoxic ophthalmia in which no gonococci could be found in the discharge from the eyes, although many were found in the urethral discharge. He spoke highly of the preventive treatment by the use of a 10 per cent. solution of protargol in glycerine and gelatin.—Dr. Richard Warren spoke of the resemblance seen sometimes between tuberculous and gonorrhœal joints. He considered that splinting was necessary at first in some of the acute cases. He asked for information as to the success of vaccine treatment in cases of persistent gleet.—Mr. James MacMunn spoke of the results of vaccine treatment. He considered that the joints were peculiarly liable to attack in patients with the "rheumatoid arthritis diathesis." Aspiration should be performed in every case of hydrops and a free incision made if any pus were found. He related a case in which a man had infected his wife 15 years after contracting gonorrhœa himself.—Mr. John Adams was sorry to have heard so little said about the primary treatment of gonorrhœa in men, as this was a department of practice in which there was room for much improvement.—Dr. R. Fortescue Fox spoke of cases in which the metatarso-phalangeal joints alone were affected. In some of these cases he had had good results from the injection of antistreptococcic serum.—A few remarks by the President brought the meeting to a close.

MANCHESTER MEDICAL SOCIETY.—At a meeting of this society held on Nov. 7th Dr. G. A. Crace-Calvert, of the Vale of Clwyd Sanatorium, read a paper on Opsonins and the Opsonic Index and their Practical Value in the Treatment of Disease, especially with regard to Pulmonary Tuberculosis in Sanatorium Patients. He said that in acute general infections the disease only lasted a short time as a rule and there was a large absorption of toxins which caused a production of antitoxins, and hence recovery resulted. In the chronic or local infections there was a poor development of toxins with a corresponding poor production of antitoxins and to obtain recovery it was necessary to produce more antitoxins. The readiest way of doing this was by the inoculation of toxins or of sterilised micro-organisms of the disease. In order to do this with safety it was necessary to estimate a patient's resistance to the disease, and this could now be done by Sir A. E. Wright's method of estimating the opsonic index. After describing the process of estimating the opsonic index Dr. Crace-Calvert showed that in normal healthy persons it varied between 0·8 and 1·2, though in a series examined by him one healthy man had an index of 1·3. The index in persons predisposed to tuberculosis was probably low (though no estimations were known) and hence they sooner or later fell victims. In ten early cases examined on arrival at the sanatorium the index was always between the normal limits and the estimations did not therefore help much in diagnosis. In ordinary subacute cases the index was usually about normal, probably from an absence of auto-inoculation. After showing that a high opsonic index was of value he said that it could be obtained and generally maintained by appropriate doses of a suitable "vaccine" repeated at the proper intervals. In early cases there was probably no need to inoculate as all these patients did well with ordinary sanatorium treatment. In acute cases it was not safe to inoculate, except, perhaps, with extremely small doses, such as $\frac{1}{10000}$th or $\frac{1}{20000}$th of a milligramme of tuberculin. When the symptoms have quietened down with ordinary sanatorium methods inoculation might help towards recovery. Dr. Crace Calvert at present only

inoculated cases not doing well with ordinary sanatorium methods; he always estimated the index several times before beginning inoculations and he always allowed the patients to rest one day before and three days after inoculating, so as to avoid auto-inoculation.

GLASGOW PATHOLOGICAL AND CLINICAL SOCIETY.—A meeting of this society was held on Nov. 12th, Dr. J. Lindsay Steven, the President, being in the chair.—Dr. Ebenezer Duncan and Mr. A. Ernest Maylard showed a case of Abscess of the Lung successfully treated by operation. The patient, who was a man, aged 27 years, was admitted to hospital in June last suffering from a condition of bronchiectasis with formation of a cavity in the upper part of the lower lobe of the left lung. The illness dated back for a period of fully five and a half years, arising from a severe cold with persistent cough and profuse foul expectoration. In the earlier stages of the illness the signs were those of bronchiectasis without cavity which only showed itself after a year or two. There was no history in the case of the lodgment of a foreign body, of pleurisy, or of pneumonia, and tubercle bacilli could never be found in the sputum, but elastic fibre was obtained on one occasion. A large amount of expectoration, usually yellow but occasionally blood-stained, was present and was brought up without difficulty. The existence and position of the cavity being definitely determined, the case was transferred to the surgical department for operation. Mr. Maylard performed a preliminary resection of the ribs and secured adhesion of the parietal and visceral layers of the pleura by irritation of the surfaces with the point of a needle around the field of operation; the wound was then kept pervious for some time by packing. The cavity was opened with a large-sized trocar and cannula and the channel was dilated by means of dressing forceps; the cavity was then treated with iodoform and drained by a drainage-tube. For the first three weeks the discharge was copious, but after a further period of three weeks the wound had closed. The patient was instructed to perform breathing exercises. The cavity had now disappeared and there was a slight amount of retraction of that side of the chest; the expectoration had greatly lessened and there was an absence of fœtor from the breath.—Dr. A. Louise McIlroy gave a microscopical and lantern demonstration of Primary Carcinoma of the Ovary, based on a study of 15 cases. The conclusions derived from the cases were that a number of apparently benign tumours showed malignant changes; they usually occurred at or near the menopause. The carcinomatous growth was best found in the thickened portions of the cyst walls and in the cortex and furrows of the solid forms.

DEVON AND EXETER MEDICO-CHIRURGICAL SOCIETY.—A meeting of this society was held on Nov. 8th, Mr. W. Horton Date being in the chair.—Mr. C. E. W. Bell showed two cases of Lupus of the Face which had recovered under the x rays applied by Mr. P. H. Stirk.—Mr. A. C. Roper reported a case of Posterior Gastro-enterostomy, in which seven days after operation the wound gave way and a coil of intestine escaped. This was washed and replaced and the wound was re-sutured through the whole thickness of the parietes with silkworm-gut. The wound had previously been sutured in layers with catgut, and after it gave way these sutures could be seen in various stages of absorption. The patient made a complete recovery.—Mr. Roper also reported the case of a man, aged 41 years, from whom he had successfully removed by suprapubic cystotomy a uric acid stone with phosphate deposit, weighing five ounces and another weighing 80 grains.—Mr. Roper also reported the case of a woman, aged 43 years, a hard drinker. She had suffered from abdominal pains for some days and shortly before she was admitted into hospital had received a blow in the abdomen from her husband. A diagnosis of ovarian tumour with twisted pedicle was made. Mr. Roper operated and found a gangrenous ovarian cystoma, multilocular and with gelatinous contents, too thick to flow through any trocar. It was bathed in fœtid blood-stained peritoneal fluid and adherent chiefly to the omentum, which was red and friable. The incision had to be prolonged in order that the tumour, which was as large as a football, might be removed *en masse*. The patient died ten hours later from shock and sepsis. At the coroner's inquest the verdict was "Death from natural causes."—Dr. R. V. Solly reported two cases of Bradycardia. The first case was one of a woman, aged 74 years, who had a pulse-rate of 28 and frequent syncopic attacks with slight clonic convulsions. In two days she became very much worse and died on the third day. The attacks latterly lasted several seconds; she was completely unconscious during them and the pulse and respiration ceased. Dr. Solly had no doubt that the case was one of Stokes-Adams disease. The second case was one of bradycardia due to heart-strain from cycle racing combined with tobacco poisoning. The patient was a man, aged 19 years. During all the time when he was training he was smoking about seven ounces of tobacco a week and 140 cigarettes. He made a good recovery.

NORTH OF ENGLAND OBSTETRICAL AND GYNÆCOLOGICAL SOCIETY.—A meeting of this society was held at Sheffield on Nov. 16th, Mr. R. Favell (Sheffield), the President, being in the chair.—The President showed a Pregnant Uterus with a Fibroid which had blocked the pelvis during premature labour at the seventh month. After the fibroid had been enucleated it was found necessary to complete the operation by supravaginal hysterectomy.—Dr. H. Briggs (Liverpool) showed a Fibroid enucleated from the anterior wall of the uterus when four and a half months pregnant. The bleeding in this case could not be controlled until the uterus had been emptied through an incision in the bed of the tumour. Dr. Briggs also showed a Fibroid removed from a similar position at the third month of gestation without interruption of pregnancy.—Dr. Briggs likewise showed an Ectopic Gestation Sac removed six weeks after full term. It had to be dissected from the rectum and pelvic floor, two inches of ureter being exposed, and great care being demanded during subsequent peritonisation. The recovery was good.—Mr. P. E. Barber (Sheffield) showed a patient, aged 36 years, 4 feet 6 inches in height, who had had seven pregnancies. Though an English woman who had never suffered privation, her history and configuration were quite typical of osteo-malacia. Mr. Barber had successfully terminated the seventh pregnancy by Cæsarean section and had removed both ovaries with beneficial results to the patient's health.—Dr. A. Macgregor Sinclair (Burnley) showed three examples of early Tubal Pregnancy.—Dr. W. K. Walls (Manchester) mentioned a case in which a large Solid Tumour of the Right Ovary proved after removal to be a Carcinoma. Metrostaxis continued after the operation and the abdomen being reopened panhysterectomy was done. The body of the uterus was found to contain a carcinomatous new growth, evidently primary.—Dr. A. J. Wallace (Liverpool) described two cases of Pelvic Contraction in which Cæsarean Section being contraindicated he had divided the pubic bone to the left of the symphysis. There was much bleeding in one case and extraction was difficult in the other. Both children were delivered alive. There was very considerable separation of the bones and the vaginal wall was lacerated by the cut bone in the second case. Walking and standing were not impaired in either patient but Dr. Wallace was not favourably impressed by his experience of the operation.

MANCHESTER PATHOLOGICAL SOCIETY.—A meeting of this society was held on Nov. 14th, Dr. A. Hill Griffith, the President, being in the chair.—Dr. J. Dixon Mann showed a Three-Chambered Heart which contained two auricles but only one ventricle. The auriculo-ventricular openings were furnished with valves. The ventricle was large in capacity and had extremely thick walls. The heart weighed one and three-quarter pounds. The aorta and the pulmonary artery emerged from the ventricle, the positions of the vessels being transposed. The foramen ovale was patent. The patient from whom the specimen was derived lived to the age of 35 years and until the last six months of his life he enjoyed average good health and was never cyanosed.—Dr. E. T. Milner and Dr. W. Mair showed a large Renal Tumour which had caused fatal hæmorrhage in an apparently healthy woman, aged 28 years. The patient was a mill-hand and had only lost half a day's work during the last ten years. On Oct. 9th when stooping to tie up her right boot she was suddenly seized with severe abdominal pain followed by other symptoms of peritonism. An exploratory laparotomy was performed and a large retro-peritoneal hæmorrhage was found in the region of the right kidney. The patient's condition prohibited removal and she died on the same night. The post-mortem examination showed the tumour to be a lipoma with angeiomatous areas forming a large mass in the upper end of the kidney. Hæmorrhage had occurred into the substance of the tumour and into the surrounding tissues.—Dr. Lees showed a

Sarcoma of the Left Kidney from a male child, aged nine months. There was no palpable abdominal tumour until shortly before death. The tumour almost filled the whole abdomen, displacing the descending colon to the right side. Histologically it showed epithelial tubes, smooth and striated muscle fibres, fibrous tissue, and sarcomatous elements.—The President showed: (1) Glioma of the Retina; (2) Dislocated Lacrymal Gland; (3) Melanotic Sarcoma of the Iris; and (4) Polypus of the Lacrymal Sac.

SOUTH-WEST LONDON MEDICAL SOCIETY.—A meeting of this society was held on Nov. 14th, Dr. M. Mackintosh, the President, being in the chair.—Dr. Macnaughton-Jones delivered an address the subject of which was a Demonstration of Ovarian Diseases with Associated Tubal Conditions. He said that it was absolutely impossible to diagnose certain pelvic complications correctly without an anæsthetic and in every case of doubt it should be used. The one satisfactory method was the bimanual, carried out with an empty bladder and rectum, a rectal exploration often throwing more light on a difficult case than a vaginal exploration; as, for example, when there was a tumour in the pouch of Douglas, such as an ectopic gestation, an adnexal tumour, a myoma, a concretion, or retroverted uterus. Before proceeding to explore the pelvis, mobile kidney and trouble in the appendix should always be eliminated. The first might easily be overlooked and the latter was a frequent attendant upon adnexal affection. Some cases in which genito-urinary complications were suspected (and possibly concretions) should be examined by the Roentgen rays. With the educated finger the sound was unnecessary in a large proportion of cases; but for measurements, for recto-vesical examination, and in the differentiation of pelvic tumours, the sound was of extreme value and at times essential. Dr. Macnaughton-Jones then proceeded to consider the subjects of affections of the tubes, of curetting in endometritis, of cancer, and of gonococcal infections. The researches of Handley into accessory cysts of the tube and mesosalpinx as a cause of hydrosalpinx were then demonstrated and a rapid survey of the various diseased states of the ovary was taken.

Reviews and Notices of Books.

Life and Evolution. By F. W. HEADLEY, F.Z.S. London: Duckworth and Co. 1906. Pp. 272. Price 3*s.* net.

THIS book has grown out of lectures delivered to the Haileybury Natural Science Society and aims deliberately at being intelligible without the help of much preliminary knowledge. Mr. Headley is already the author of a work on the problems of evolution, which some of our readers may know, and has also written on the life-history of birds, so that portions of the ground over which he passes he has traversed before; but he has assimilated the old with much fresh material, and has managed to produce a lucid account of the theory of evolution, laudably free from technicalities and recondite terminology, and within the compass of a reasonably sized volume.

The author begins by describing the life-history and structure of the micro-organism, in the course of which he gives working definitions of protoplasm and chlorophyll, and points out the reasons for allotting protococcus to the vegetable kingdom, the amœba to the animal kingdom, and the springing monad, like pathogenic bacteria, to neither kingdom, or perhaps to both. A few words on the insectivorous herbs bring us to the conclusion that plants and animals are what they are largely because of the nature of their food, as influenced by their fixity or mobility. A typical plant builds itself up from salts and gases and leads an independent life, a typical animal cannot maintain existence apart from other animals or plants, but in protozoological circles these differences are not strictly observed. A chapter on the animal life of the sea is followed by a simple disquisition on the physiology of respiration and the functions of gills and lungs. The diverse systems of breathing of the earthworm, the mollusc, the fish, and the frog are passed in review, when we reach the most interesting section of the book—namely, that devoted to reptiles, birds, and the transition phases between them, existent or extinct. The chapter on the flight of birds is full of information clearly put, and if where the theories of investigators differ the author does not dogmatise it is because he obviously expects the difficulties in question soon to be surmounted by actual investigation. With regard to the mechanics of soaring, he suggests that in such a place as the great plain of Upper Assam, when soaring is actually taking place, trials should be made with man-lifting kites or with balloons on the scene of action. This was the very thing that that bold and luckless aeronaut Pilcher had laid himself out to do when his tragic death cut short his eager experimenting.

The last three chapters are devoted to an elementary essay on the psychology of the various genera discussed in the book, to a consideration of the crises in the existence of plants and animals usually summarised as the struggle for existence, and to the result of that struggle—namely, progress as it occurs through heredity, natural selection, variations of environment, and the rest. The final chapter, which is entitled Natural Selection, deals in under 40 pages with the different theories associated by name with the leaders of evolutionary thought. The steps by which evolution takes place are explained in accordance with the theories; the extent, for example, to which the Darwinian doctrines are supported or impugned by De Vries or Mendel is well shown; we get more than a hint of Lamarck's teaching and learn Herbert Spencer's views upon the inheritance of acquired characteristics. This section of the book is in particular designed to be elementary, as was necessary having regard to the original purpose of the lectures constituting the framework of the book, so that there is no discussion of several subjects which are so often used as pegs upon which to hang partisan opinions. Nor does the author—at least, that is the presumption—expect his audience to be at all deeply read in these matters. His views are very simply expressed and the student who has been able to follow his arguments will naturally read more deeply, both along the frequent lines of reference laid down by Mr. Headley and in directions prompted by his own inclination.

We consider this small book with its big title extremely well done. The story of vitality from its lowest to its highest is told succinctly and the development of intelligence is traced until evolution culminates in man. The freedom from jargon makes comprehension of the author's teaching and ideas easy, while the records of personal experiment and reflection enable him to present many details with authority. The book is freely illustrated with photographs taken by the author and with drawings and diagrams by his pupils. The photographs illustrating the different phases in the flight of birds are particularly vivid and useful.

A System of Dental Surgery. By the late Sir JOHN TOMES. Fifth edition, revised and enlarged, by CHARLES S. TOMES and WALTER S. NOWELL. With 318 illustrations. London: J. and A. Churchill. 1906. Pp. 780. Price 15*s.* net.

THE perusal of the fifth edition of this well-known work is somewhat disappointing because we had hoped to find the subject matter thoroughly revised. That this is not so is a pity for the work contains so much excellent material and is written with such judgment that if arranged more systematically and brought well up to date its value would be considerably enhanced. We quite appreciate the revisers' endeavour, namely, to retain the initial characters of a work written nearly 50 years ago and at the same time to bring it up to date in successive editions. But why attempt such a task? It would be far better, it

seems to us, to leave the early editions to speak for themselves as scientific expositions of the knowledge of dental surgery of the time, and in new editions completely to recast the whole matter.

We do not need to read many pages of the present edition to find that modern biological thought and teachings have had but little influence upon the revisers. The old views of heredity in its relation to disease are adhered to. We are still told in connexion with irregularities of the teeth that "inheritance comes in very strongly in the production of V-shaped and saddle-shaped arches and disproportions between the two jaws." Under Caries we read: "Though it has been denied, there is much evidence that the tendency to caries, whether induced by structural deficiencies or perverted function, is strongly inherited, so strongly indeed that sometimes as the several children of the parent successively arrive at a certain age the corresponding teeth will become decayed"; and under the heading of Absorption of the Alveoli and Pyorrhœa we are told "that the predisposition to an early failure of the teeth, from the incidence of their sockets, is hereditary." But little evidence is brought to support these statements and the fact seems to have been overlooked that much that has been previously regarded as inheritance is really nothing more or less than similarity of environment.

The want of appreciation of modern thought is discernible almost throughout the book and this is well marked in the chapter on Caries. The pathology of caries is thoroughly dealt with and expresses the most recent views but when the question of etiology is discussed there seems to be a failure to realise the importance of the question of the foodstuffs in the production of this condition. Evidence is accumulating which tends to show that in our altered methods of living and of rearing children is probably to be found the keynote to most of the dental disease that we see in the present day and we naturally expected a fuller consideration of this question than it has received.

Throughout the work modern pathological teachings do not appear to have had the influence which might have been expected and the revisers do not seem always to realise that the general teachings of disease are applicable as much to the teeth as to other parts of the body, otherwise we fail to see why "dental exostosis" and "absorption" of the teeth are considered in separate chapters to that on "inflammation of the alveolar periosteum" and are apparently considered separate diseases of the teeth rather than the result of periodontal inflammation corresponding with a similar condition met with in inflammation of bone.

A considerable portion of the book is devoted to practical work and here again although there is much that is most valuable in the methods advocated there is also much that is open to criticism. If it is considered necessary to introduce illustrations of instruments which presumably are recommended for use, why not employ blocks showing the more modern forms: take, for example, Fig. 147, p. 245, a hand drill years out of date and long superseded by a more efficient instrument; Fig. 151, an antiquated tongue holder; and Fig. 155, a mechanical separator, a pattern which has long since been improved upon.

We have felt bound to point out what we consider to be some of the defects of the work, but as we have already mentioned there is much that is very valuable. It is a book which is better suited for the practitioner than for the student.

LIBRARY TABLE.

The Rise and Progress of Hydropathy in England and Scotland. By RICHARD METCALFE. London: Simpkin, Marshall, Hamilton, Kent, and Co., Limited. 1906. Pp. 307. Price 3*s.* 6*d.* net.—The author, who does not appear to be a medical man, writes that, in one respect, the story of his pages is one of sorrow—of, in some sense, decadence, not decadence in knowledge of the value of water and other hygienic appliances as a method of therapeutics, but rather in the grasp and faith of those who apply them. But he says that even in our present state of apathy there are not wanting hopeful signs. "We shall (in his opinion) awake and behold a new physical renaissance, a new return to the Greek ideal, a sound mind in a sound body." If we do not "we shall go on in that steady decadence which has set in among us on every side and which is already occupying the attention of committees of inquiry, the Board of Education, and one-eyed men with one-eyed solutions without number." Mr. Metcalfe is convinced "that the Water Cure, through its intrinsic worth, and by the force of its beneficial operation solely, will break its way through the ramparts of prejudice opposed to it by frivolous and unreflecting minds." The early part of the book is devoted to biographical accounts of the pioneers of "the water cure." These are followed by descriptions of hydropathy at Matlock, Harrogate, and other places. The final chapter treats of the present position of hydropathy.

Aids to Surgical Diagnosis. By H. W. CARSON, F.R.C.S. Eng., Surgeon to Tottenham Hospital. London: Baillière, Tindall, and Cox. 1906. Pp. 140. Price 3*s.* 6*d.*—This little book, "Aids to Surgical Diagnosis," is intended for the use of students and practitioners who may desire to obtain in a small compass the main points in the diagnosis and differential diagnosis of the more common surgical diseases. No attempt is made to deal with "special diseases." The early pages of the volume are devoted to methods of examination. It is well written and many useful points are introduced to notice and explained. The value of the leucocyte count is dwelt on, and the tuberculin test (Tuberculin D), Luys's separator, and the sigmoidoscope are all explained. The little book is well planned and the author has succeeded in bringing out the chief points in surgical diagnosis.

The Health-care of the Baby: a Handbook for Mothers and Nurses. By LOUIS FISCHER, M.D. London and New York: Funk and Wagnells Company. 1906. Pp. 144. Price 3*s.*—Ideals are always hard of attainment; and Dr. Fischer's ideal nursery and infant-care will, we venture to think, very rarely, if ever, be reached. His little book, which claims to be a guide to mothers and nurses in the care of children, seems to us to exceed its object and to contain much that a mother and nurse would do well to be ignorant of; while, on the other hand, the information which it gives is of too scanty and unscientific a nature to make the book valuable as a text-book for students. The book is divided into three parts. The first part deals with hygiene, and many of the rules laid down, though in themselves excellent, must, owing to circumstances, be disregarded by the poor mother, while the well-to-do mother will observe them because she is determined to do the best for her child. The second part deals with infant-feeding. Its opening words, "Each baby is a law unto itself," seem to belie the rules set forth. Here the author tells us that in New York city "certified or guaranteed milk" can be obtained and adds that when this can be done the nearest approach to perfection has been reached under strict municipal control (which, we hope, is better administered than in Chicago). A chapter is devoted to discussing the *pros* and *cons* of the various proprietary foods. The third part deals with miscellaneous diseases and emergencies and resolves itself into a short explanation of the commoner symptoms of, and the precautions to be taken against, the various infantile disorders; while one chapter is devoted to the principles of first aid. The most useful part of the book seems to us to be the last chapter which gives directions for the making of a variety of external applications of general

use. But the list of drugs and requisites which the mother and nurse are advised to take with them "when the baby travels or when going to the country" is surely rather formidable.

JOURNALS AND MAGAZINES.

The Edinburgh Medical Journal.—The November number of this journal contains some articles of considerable interest. Dr. P. S. Haldane contributes a careful and elaborate criticism of Dr. P. J. Cammidge's "pancreatic reaction" as diagnostic of affections of the pancreas. He arrives at conclusions unfavourable to the value of the test. Dr. W. Soltau Fenwick writes of displacements of the stomach and their effects upon digestion and gives some useful advice as to the treatment of these conditions. Dr. J. S. Fowler records a case of infantile myxœdema in which thyroid feeding had little effect, and Mr. J. W. Struthers, after reviewing the results so far obtained by spinal anæsthesia, decides that this device has no advantages over the usual methods, while its mortality is equal to that of chloroform.

The Medical Chronicle.—The October number opens with an obituary notice of the late Dr. Thomas Harris, giving a full list of his publications, which sufficiently testifies to his versatility and medical knowledge. Dr. Albert Ramsbottom, in an M.D. thesis, treats of Ascites as a Prognostic Factor in Alcoholic Cirrhosis of the Liver, and agrees with the view that in uncomplicated cirrhosis the onset of this symptom is of grave import, but that in cases complicated by chronic peritonitis a much longer duration of life may be anticipated.

The Birmingham Medical Review.—The third of Professor Robert Saundby's lectures on Medical Ethics is published in the October number of this magazine. It deals with the relations of medical men to the State and touches on such points as the duties of medical witnesses in courts of law, the notification of infectious diseases, and the peculiarities of the naval and military services, as well as with the problems arising out of recent factory legislation and kindred matters. Mr. W. Edward Bennett contributes the first part of an article on Congenital Dislocation of the Hip, illustrated by a large number of skiagrams of this condition, and Mr. Smallwood Savage gives a useful practical summary of current views as to the proper treatment of Puerperal Eclampsia.

The Journal of Physiology. Edited by Sir MICHAEL FOSTER, K.C.B., F.R.S., and J. N. LANGLEY, F.R.S. Vol. XXXIV., No. 6. London: C. F. Clay. Price 7*s.*—The articles contained in this number of the *Journal of Physiology* are the following: 1. The Influence of the Venæ Comites on the Pulse Tracing, with special reference to Valsalva's Experiment and Dicrotism; a note on Anacrotism, by Thomas Lewis, D.Sc. Wales, M.B. Lond., with 28 figures in the text. The author suggests certain improvements in the application of the ordinary sphygmograph and his chief conclusions are that venous congestion plays no part in the initial rise of a sphygmograph curve in Valsalva's experiment but is due to increased blood pressure. Dicrotism may be produced in a normal pulse with a simultaneous rise of blood pressure. Anacrotism can be produced in a normal pulse-tracing by increasing peripheral resistance locally to a pressure at or about diastolic pressure. 2. The Factors influencing the Prominence of the Dicrotic Wave, by Thomas Lewis, D.Sc. Wales, M.B. Lond., with 15 figures in the text. 3. On the Presence of Alcohol in Normal Blood and Tissues and its Relation to Calorifaction, by W. Hutson Ford, M.D. This has been already dealt with in THE LANCET of Nov. 10th, p. 1299. 4. On the Influence of the Relative Concentration of Calcium Ions on the Reversal of the Polar Effects of the Galvanic Current in Paramœcium, by Frank W. Bancroft, with three figures in the text. 5. On the Phosphorus and Calcium of Human Milk, by Alfred W. Sikes, M.D. Lond., F.R.C.S. Eng., with five figures in the text. 6. On the Estimation of Proteid in Human Milk, by Alfred W. Sikes, M.D. Lond., F.R.C.S. Eng. 7. On Subcutaneous Injections of Adrenalin, by T. R. Elliott, George Henry Lewes student, and Herbert E. Durham, John Lucas Walker student, with one figure in the text. This number completes the thirty-fourth volume of the Journal and contains the title-page and index to the volume.

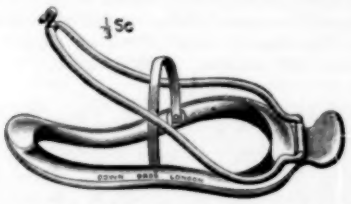
Ophthalmology. Edited by H. V. WÜRDEMANN, M.D., of Milwaukee, U.S.A. Vol. III., No. 1. Price, per number, 6*s.*; per annum, £1.—This number of *Ophthalmology* contains in addition to abstracts and reviews the following original articles: 1. Extraction of Cataract in the Capsule with a report of ten cases, by Fred. E. Cheney, M.D., of Boston. Dr. Cheney contrasts the results obtained in his cases with those of Major Henry Smith, I.M.S., of India, by whom this method of operation was proposed, and though not equal to Major Smith's his results are still very good, the difference being probably due to the characteristics both of body and mind of the Anglo-Saxon as compared with Indian races. 2. The Extraction of the Lens in Capsule (East Indian operation) as a Method of Procedure in case of Immature Cataract, by Myles Standish, M.D. Three cases are given with fair results. 3. Ptosis: its Diagnosis and Value as a Localising Symptom, by A. Alison Bradburne, F.R.C.S. Edin. This is a carefully written and suggestive article. 4. Massage, an Occupation for the Blind, by L. Webster Fox, A.M., M.D., of Philadelphia, Pennsylvania—a means of employing the blind that is strongly recommended to Americans in emulation of the London Institute of Massage by the Blind. 5. Traumatic Enophthalmos, with a report of a case, by Charles Lukens, M.D., of Toledo, Ohio. A tabulated abstract of 78 cases which the author has collected is given. 6. Foreign Bodies in the Anterior Segment of the Eye and their Removal, by William Evans Bruner, A.M., M.D., of Cleveland, Ohio. 7. My Experience in treating Diseases of the Duct without Operation, by Walter Hamilton Snyder, M.D., of Toledo, Ohio. Dr. Snyder employs injections of various substances as cocaine, adrenalin, and subsequently solution of argyrol. 8. Herpes Zoster Ophthalmicus, by G. A. Sulzer, M.D., of Portsmouth, Ohio. 9. Inflammation of the Eyes due to Infection from Hay Fever conveyed by Tobacco Smoke, with reports of cases, by J. W. Wright of Columbus, Ohio.

New Inventions.

A MODIFIED CHLOROFORM MASK.

PERHAPS the two most important points in chloroform administration are the proper regulation of the air-supply and the constant observation of the pupil reflexes. In the Schimmelbusch pattern of mask I have often found that the large rounded upper end has almost covered the eyes of the patient, especially if the lint was not trimmed quite close to its edge; while if kept resting on the face the mask did not allow of sufficient passage for the admission of air under the frame, which becomes necessary when the lint gets saturated. Messrs. Down Bros., St. Thomas's street, London, S.E., have made for me a modification of the Schimmelbusch mask in which the upper end is shaped to fit the nose, thus allowing a complete and perfect view of both eyes during the whole operation. At the same time the part that goes round the mouth and lower part of the nose is carried forward a little, just sufficient to allow of the passage of a small quantity of air, so that the whole mask takes a very slight double curve on side view. I have also arranged the handle at an angle of 45° so that it can readily be held between the forefinger and thumb of the left hand while the other three fingers support the chin forwards and upwards and the middle finger in addition just catches the patient's right facial artery, keeping the anæsthetist informed of the pulse condition. There is a slight difference also in the method of securing the lint, as

only one cross-bar is needed, which is held in position when upright by fitting into two small slots in the frame and when closed lies in the bigger end of the mask. The other wire



is the same as that of Schimmelbusch except that it is made to the shape of the frame. The whole mask is light and shuts up almost flat for the pocket and can be made quite cheaply.

T. R. ST. JOHNSTON,
late Assistant House Surgeon and Anæsthetist, Dudley Hospital.
Lewisham Infirmary, S.E.

A NEW MIDWIFERY FORCEPS.

Dr. N. J. A. T. Boerma, of Groningen, in the Kingdom of the Netherlands, has sent us a description of a new pattern of midwifery forceps suggested by him and made by Mr. J. Houwink, instrument maker in the same town. Both Dr. Boerma himself and others who have used it have found it very serviceable in practice. It is both light and portable, measuring 11 inches in length and weighing 350 grammes. The blades for grasping the fœtal head are exactly the same as in Naegele's forceps, but the portions intermediate between these blades and the handle do not converge or cross one another at the lock. The two halves of the forceps are nearly parallel to one another throughout their entire length, somewhat like a pair of sugar tongs, and the lock which connects them is in the middle of the bend at the handle. Dr. Boerma does not recommend it for use in cases where the head has not entered the pelvis, but these form only a small proportion of instrumental deliveries.

Looking Back.

FROM

THE LANCET, *SATURDAY*, Nov. 22nd, 1828.

Of Epigenesis and Evolution.—By physiologists it has often been disputed, whether in generation there is real formation, or whether these structures are merely developed in the process, the various organs being already in existence before conception is effected, though concealed from observation by their smallness, their transparency, and their involution in each other. Many physiologists have maintained, that in generation there is a real organisation, one part being formed successively upon another, by a process of epigenesis, as it is called; but Swammerdam, Haller, and Spallanzani, seem to have maintained, that all living beings were formed in little at the creation, and that they were merely enlarged and developed in generation, but, being possessed of organisation, before conception is begun, those swarms of locusts, possible, as well as actual, were all, according to these speculators, enclosed in the ovary of the first parent; and of the shoals of fishes—and of the flights of birds—and of the innumerable multitudes, possible and actual, of which our race is composed,—all, according to this opinion, are coeval, and old as the creation, though passing in different ages through the door of life. Make all allowance for the infinite divisibility of matter—give due weight to the recollection, that the power of the Creator is boundless—remember the minuteness, scarcely conceivable, of the corpuscle of the animalculæ—still, the more we reflect on this doctrine, (evolution, as it is called,) the more incredible it appears. On a point like this, in the present state of our knowledge, with respect of facts, it is, perhaps, impossible that we should obtain an absolute conviction, yet I acknowledge I feel, in my own mind, a persuasion almost amounting to conviction, that, in generation, there is a formation of parts which had previously no existence, and that in this process we have not, as Swammerdam and Haller and others have supposed, merely a development and enlargement of organs which existed before, but which, by causes already mentioned, were concealed from our sight. Of your structures and mine, it seems to me not improbable that no parts existed some hundred years ago; nor does it, I own, appear to me impossible, that within that compass of time all the parts of our body have been completely and really organised.

There is nothing more certain, than that living parts do possess an organising power; whence that power arises, I do not pretend to explain; but its existence, like that of the lunar influence on the ocean, is not the less certain, because, in our ignorance, we cannot tell in what it consists. Those who amuse themselves with the gay and airy mythology of antiquity, must all have read the tale of the Lyrnæan hydra; in physiology this story is, in some measure, realised, and the stag renews its horns, and the lobster its claws; the lizard can reproduce its eye, and the snail its head, and this repeatedly; or if the second head be removed by a dexterous hand, a third will sometimes sprout up in its place: nor must we forget a fact, on which, however, I do not lay equal stress, I mean, that in the generation of all insects, the maggot is converted into the fly. Now in all these cases, it is very evident that the living body, from whatever cause, really does possess a power of organising parts, which have no existence before. I know, with respect to the butterfly and the caterpillar, it has been urged by the very laborious and able Swammerdam, that the parts of the butterfly are contained under the skin of the caterpillar, at least about that time when it is about to become converted into chrysalis: but setting aside for the present the proof of formative power taken from the transformation of insects, its existence is, I think, evident enough in the other cases which have been stated, that of the snail especially; for, I presume, no generous antagonist will venture to maintain, without proof, that a snail has a repository of heads to supply the place of those which may be removed by the physiologist. .....

There is yet a third argument, which, I think, strengthens my thesis, the simplicity and ease of generation; and that is taken from the great *rapidity* with which the living structures are formed. The human structure itself, perhaps, of all others, the most elaborate in all its essentials, is perfected in the brief space of a few weeks. Of birds there are many; and I may give the common fowl, as an instance of which, the principal structures become organised in the compass of a few days. And, as to the eggs laid by insects, as, for instance, the common large blue fly, I have myself known them to become living in the course of a few hours afterwards; so that, without rising higher into the regions of airy and giddy speculation, when I reflect on the simplicity of some of those structures by which generation is accomplished; when I consider in what abundance Nature, in some genera of living structures, is producing the buds and the seeds; when, lastly, I recollect how rapidly, in the most complicated and perfect animals, the structures that compose them are formed and developed,—I cannot help persuading myself that, in generation, the process is not really difficult; but that like the marvels of typography, of electricity, of aërial navigation, and the explosive powders, it depends upon some simple principles, which the human mind may, perhaps, hereafter comprehend. We have imitated many other of the natural operations, may we then hope to imitate this, even in the humblest manner? But I forbear, lest you should take it into your heads that I expect to realise the extravagant fiction of the novelist, and to bring from the stage *Frankenstein*, to act his part in the scenes of real life.[1]

[1] Excerpts from "Lectures on the Gravid Uterus, and on the Diseases of Women and Children. Delivered at Guy's Hospital by Dr. Blundell. Lecture V."

UNIVERSITY OF OXFORD.—The examinations for the degrees of B.M., B.Ch., will commence on Thursday, Dec. 6th. Names must be sent in to the secretary to the Board of Faculties not later than 10.30 A.M. on Tuesday, Nov. 20th.—An examination for scholarships in natural science at New College and Merton College is announced for March 19th, 1907.—A demonstration of photographs and models of ancient Greek and Roman surgical instruments was given on Thursday, Nov. 22nd, in the lecture room of the Pathological Department, Museum, Oxford, by Dr. J. S. Milne.

THE LANCET.

LONDON: SATURDAY, NOVEMBER 24, 1906.

Poor-law Reform Commission (Ireland).

ABOUT three and a half years ago—to be exact, on May 12th, 1903—the Earl of DUDLEY, then Lord Lieutenant of Ireland, appointed Mr. W. L. MICKS (a commissioner of the Local Government Board for Ireland), Dr. E. C. BIGGER (one of the medical inspectors of the same Board), and Mr. GEORGE MURNAGHAN, M.P., to form a commission, their duty being to ascertain how, if at all, a reduction could be made in the expenditure for the relief of the Irish poor without impairing the efficiency of that relief; and at the same time it was referred to them to show, if possible, how an improvement in the method or system of affording relief might be effected. The members of this important commission of inquiry have been busily occupied ever since, and late in October last they issued their report accompanied by two other volumes containing the minutes of evidence, the index, and various matters which have been relegated to an appendix. The report is an extremely interesting and revolutionary one, condemnatory of the whole Irish Poor-law system, and proposing an entirely new system of relief in its place. The questions involved are treated from many aspects, but we propose to deal specially and briefly with what concerns the medical profession. In Ireland, as elsewhere, the relief of the poor must depend mainly upon the skilled exertions of the medical officer for the district—in other words, the essential of a good system of poor relief must be a good service for the care of the sick poor.

The report opens with a very interesting and suggestive comparison between the Ireland of 1906 and that of 1838, when the first Irish Poor-law was enacted, and it is melancholy to read that in 1841, the year in which a few of the first workhouses were opened, the population of the island was 8,175,000, while in 1901 it had fallen to 4,458,000. Such a fact, more than whole volumes of Parliamentary records, proves the political ill-health of Ireland. The recommendations of the Irish Royal Commission of 1833 are discussed and the present commissioners come to the conclusion that the poverty of Ireland cannot be adequately dealt with by any poor relief law such as that of 1838. The development of the country's resources, as far the better policy and practically as the only alternative, is urgently pressed; without such help, the commissioners assert, emigration must continue and those who remain at home will be without any hope of improvement or progress. With regard to the present workhouse system in Ireland the recommendation of the commissioners amounts to one of abolition. The main classes in workhouses at present are: (1) the sick; (2) the aged and infirm; (3) lunatics and all kinds of insane cases; (4) sane epileptics; (5) unmarried mothers; (6) infants; (7) children between infancy and 15 years of age; (8) casuals or ins-and-outs; (9) vagrants or tramps; and (10) able-bodied other than those in classes 3—9 inclusive above. The commissioners entirely condemn the maintenance of such numerous and varied sections of the community in one retreat, and advise that the classes of inmates should be segregated into separate institutions following the classification just given, and at this point they deal exhaustively with each of these classes and show how existing measures fail to cope with many of their distinguishing features. They recommend that the existing hospitals, whether Poor-law or county, now serving 159 centres or unions, should be, except in a few cases, retained in their present localities, but they hold that all of them should be placed under the management of county and district committees, and that the two systems should no longer coexist. There are 41 county and city infirmaries and it is recommended that resident medical men should be appointed to all of them for one year to act as house surgeons "in the public hospitals of Ireland," which should as far as possible be used only for the acutely sick. The commissioners urge the necessity of securing the appointment of specially qualified and experienced medical officers to staff these hospitals and point out that that fruitful source of tragedies and abuses, pauper nursing, would no longer be possible under a well revised system.

In addition to properly organised centres for the acutely sick they recommend that a number of sanatoriums for the treatment of tuberculosis should be established, for it is deplorable, though no great surprise to medical men, to learn that the average number of deaths in Ireland from this disease has been 12,556 for the past ten years. If Ireland showed a similar reduction in the death-rate from phthisis as has occurred in England and Scotland during the past 35 years 6000 lives would be saved per year. It is clear, therefore, that there is no health question of greater importance to Ireland at the present time than the prevention and cure of consumption. It is in the very prime of life (from 25 to 35 years) that we find in Ireland the greatest number of deaths from tuberculosis; and it is a suggestive fact that in 1905 there were 8204 patients suffering from this disease in the union hospitals and county infirmaries. Moreover, the present conditions tend to promote the further increase of the disease and other remedial measures advocated are the establishment of cottage hospitals in the remote and sparsely populated districts of the West and of an efficient system of home nursing. The commissioners recommend that the "aged and infirm" of all the workhouses within a convenient area should be placed in a disused workhouse, to be known as the county or district "almshouse," in which proper classification can be carried out; the insane they would remove from Poor-law institutions, detaining them in auxiliary or other asylums under the control of the lunatic asylum authorities, while sane epileptics should, they think, be placed in separate institutions, for which purpose disused workhouses would be available. The mothers of illegitimate children ought not to be the inmates of institutions like workhouses, the environment of which tends to debase all unmarried mothers; they should be sent to institutions under religious or philanthropic management,

or to "labour houses," and should be kept apart from other classes. Of the infants received into Irish workhouses there are the following classes: (1) illegitimate first-born infants; (2) illegitimate infants other than first-born; (3) deserted infants; (4) orphan infants; (5) legitimate infants of ill-conducted parents; and (6) legitimate infants of respectable parents. The commissioners recommend that infants should be placed in "nurseries," either under religious and philanthropic management, or, when disused workhouses are used, under Poor-law control. All children between infancy and the maximum limit of age should be boarded out, while certain cases might be temporarily placed in certified or industrial schools. As to the casuals and vagrants, they, the commissioners suggest, should be detained for long periods in "labour houses" in which the inmates should (as is said to be the case in Belgian establishments) be required to make or to produce as far as possible the food, clothing, and necessaries for such an institution. These labour-houses would be under the control of the General Prisons Board and would be maintained out of Imperial funds, while genuine working men about to travel to seek employment should be provided with satisfactory documentary authorisation for obtaining from relieving officers food and lodging during their journey. It is also suggested that two disused workhouses should be handed over to the War Department for the accommodation of pensioners, ex-soldiers, reservists, and militiamen who claim support owing to destitution. The commissioners advise that the number of guardians throughout Ireland should be reduced to the number of elected guardians prior to the year 1898, and that the Government should take over disused workhouses not required at the time of disuse for any purpose and should build suitable hospitals in lieu thereof. The report is a very valuable one and whether its suggestions are adopted or not will for many a day be a storehouse of useful information for all those interested in Irish Poor-law reform.

It follows from the drastic nature of those recommendations of this remarkable report that we have so far noticed that the establishment of a State medical service is urged, the cost thereof to be defrayed out of money voted by Parliament.

If [says the report with regard to the conditions of entering and serving in the new department] the infirmary and hospital medical service in Ireland were being organised anew, and indeed even as circumstances are at present, it seems that the best and most impartial test would be one that should provide for entrance into the service by competitive examination, open to students educated in Ireland, with a representative medical council to assign the candidates to suitable places and to deal with all important questions of promotion, removal, censure, or dismissal, and of remuneration and superannuation, subject to Treasury approval of scales of payment. Such a system, it would appear, involves the payment by the State of the whole, instead of half, of the salaries of medical officers, as at present,—or, in other words, that there would be a State medical service, with local bodies to assist in administration of relief to the sick. We would not suggest this most important change unless the Government were willing to defray the whole cost of the service in lieu of their contribution of half the cost as at present. If a State service of the kind were established the Government could (subject to rights and customs affecting existing medical officers) require the medical staff, as part of their ordinary duty, to attend constabulary, coastguards, soldiers, post-office officials, and such other persons in the prison or other public service as now receive medical attendance at the public expense. Doctors in the State service would, of course, also act as medical officers of health. It is, we may state, contemplated that the present privileges as to private practice should continue. In some populous districts, however, we think it would be desirable that on the occurrence of vacancies the State medical officers should be required to devote their whole time to their public duties. We consider it proper and equitable that the proposed Irish medical service should, at all events for the present, be restricted to candidates educated in Ireland. Practically, all existing Irish Poor-law medical officers are Irishmen, and having regard to the very few modes of earning a livelihood in Ireland, otherwise than by agriculture, we think it would be unjust to take away their appointments from Irishmen and confer a benefit upon other countries which possess superior educational facilities. Further, it is an undoubted advantage that physicians in any country should know intimately the customs, habits, modes of expression, and general conditions of the inhabitants, especially in the case of Ireland, where the mode of life and standard of living differs so much from those in Great Britain.

The commissioners go on to express their opinion that the competitive examination for entrance into the Poor-law service should be conducted upon similar lines to those for the army, navy, or Indian Medical Service, and they think that the service should in all important matters be controlled by a council, mainly, if not altogether, composed of representative Irish physicians and surgeons. A council of five members is suggested: the medical commissioner of the Local Government Board, a representative of the Royal College of Surgeons in Ireland and of the Royal College of Physicians of Ireland conjointly, a representative of the Irish Branch of the General Council of Medical Education and Registration of the United Kingdom, a medical representative from the University of Dublin, and a medical representative from the Royal University of Ireland. We are not certain that an ideal council is thus indicated, but criticism will be quick to point out its defects if and when the proposal becomes an actuality. Such a scheme would act as a stimulus to medical men as they would have the hope of promotion, and pensions on the civil service scale should follow, while a supply of good men to all the rate-supported or rate-aided hospitals in Ireland should be the result. Any change in the dispensary medical and public health service was outside the scope of the inquiry, except in so far as dispensary medical officers would, *ex-officio*, have charge of district hospitals; but the suggestions made by the commissioners as regards hospitals could, they think, be more easily worked into some general scheme for the entire Irish county and union medical service.

The Dangers of the Motor Omnibus.

THE motor omnibus in large cities bids fair to become of acute interest to the medical profession. In London the recent manifestation of public opinion against motor omnibuses on account of the noise produced by them was largely supported by medical men, and has to some extent diverted attention from the actual danger to life and limb arising from the manner in which these vehicles are driven, as well as from the defects inherent to their construction and to the method of their propulsion. The incident, however, when one of these omnibuses skidded, mounted the pavement, and charged the parapet of Waterloo Bridge brought to the minds of many the accidents likely to become frequent, at

any rate in the metropolis, in the season when greasy roads and fogs are to be expected; and the result of an action tried by Mr. Justice BIGHAM, and reported in the newspapers on Nov. 1st, has not tended to reassure nervous persons who use the streets in order to go about their necessary business. Such foot passengers would wish to see every preventable accident brought home to the motor driver and to his master, but the summing-up of the learned judge in the case referred to seems to absolve the owner of the motor omnibus from a most important section of his liability. The accident inquired into was the result of skidding on the part of an omnibus owned by the "London Motor Omnibus Company," whereby the plaintiff, THOMAS KING, was injured, and Mr. Justice BIGHAM is reported as having told the jury that they would have to say whether the vehicle was being driven at excessive speed at the time of the accident and that every miscalculation of distance on the part of the driver did not amount to negligence. "They were all liable to errors of judgment and it would be unfair and unreasonable to say that every error of judgment was the result of negligence." With regard to suggestions that the omnibus was improperly constructed, he pointed out that there was no evidence of this, and added that people could not be expected to anticipate every improvement that might be brought out in the next half century.

Such observations as these of the learned judge have much which is plausible to commend them and in the particular case in which they were delivered it was not surprising that the jury found for the defendants. The arguments seem, however, to confine the liability of the motor omnibus company, which may be sued for an accident, to such negligence on the part of its servants as may be proved to have led directly to the occurrence; and they appear to recognise as a defence to an action for damages caused by skidding the simple plea that motor omnibuses are dangerous things, liable to skid capriciously, and that if they do so and so injure anyone he must accept the result and be thankful that it is no worse. They ignore the question, in short, whether it is right that anyone putting a necessarily dangerous vehicle on the streets should lay himself open to no liability in so doing. On the same principle a man might cause his coachman to take four thoroughbreds from the racecourse, harness them to a coach, and drive them down Piccadilly, pleading in answer to any claims for damage caused by his freak that his coachman was a careful man who did his best to avoid an accident, which no one in the circumstances could have prevented. As a matter of fact, skidding is sometimes unavoidable, but what is usually to be avoided is the preliminary piece of rash or unskilful driving which makes either an immediate accident, or the change of pace or direction which leads to skidding, inevitable. Skidding is, in other words, more likely to occur with an unskilful driver than with a skilful one. Two recent accidents may be referred to in this connexion, one of which had a fatal termination. At the inquest upon a street-cleaner the driver of the motor omnibus (who was eventually held not to be responsible for the accident) told the jury that he had driven a motor omnibus for one week only before the accident, which occurred in the city of London, but that prior to that time he had undergone a month's training and had passed the examination imposed by Scotland Yard. In the other case injury to a boy wheeling a barrow was made the subject of a police-court inquiry. In this instance the driver had practised his occupation for five weeks. In neither instance do we observe that evidence was given of previous driving of horses, which would have been valuable, and although the ways of a mechanically propelled vehicle may be more easily learnt than those of horses, it is impossible not to contrast the practised skill and judgment of the driver of the horsed omnibus, as manifest to all who observe our street traffic, with whatever resources may be expected to be found in the driver of a motor omnibus after such periods of education as those described.

In two other recent instances actions arising out of skidding have been tried in county courts and have resulted in damages for the plaintiffs, and in one of these heard in the City of London Court it was intimated by counsel for the defendant omnibus company that there would be an appeal, his case having been throughout that the greasy condition of the Strand had caused the skidding which, so far as the driver was concerned, was unavoidable. In the other case tried by Judge EDGE at Clerkenwell his honour left two questions for the jury: (1) Was there negligence on the part of the driver? and (2) Even if there was no negligence was the motor omnibus being used in such a manner as to render it dangerous to the public using the highway? As the first question was answered in the affirmative, there was no need for any finding upon the second and consequently the point of law suggested by it will not be raised, presumably, upon the facts of this particular case. It is, however, clear that before long an appeal or appeals to the High Court must lead to authoritative decisions defining the general liability of the owners of motor omnibuses. No one wishes to see any useful enterprise fettered at the outset but at the same time it seems a little hard upon the users of other carriages, and of the highway generally, that such weighty vehicles as motor omnibuses should be, so to speak, turned loose upon them in the crowded thoroughfares of London in charge of men so inexperienced as those described, and that when accidents happen it should be said that skidding is inherent to this form of vehicle, although mechanical means are being sought for in order to prevent it. The injured person would be inclined to retort to the effect that if the skidding is inevitable the motor omnibus is too dangerous to be allowed in the streets, and that if, on the other hand, it is to be avoided its occurrence should render the proprietor of the vehicle liable for any damage caused by it, in the absence of proof that the accident was not due to any act or omission of his servant.

We have confined our remarks almost entirely to the legal aspects of the matter, but in every way the development of motor traffic, and especially in crowded centres, is becoming one of medical interest. No body is marked out so naturally to take a line of reasonable protest against encroachment upon public safety as is the medical profession, and no one is more likely to hold this view than the medical man who has learned the enormous conveniences of a well-managed motor-car.

The Day of Rest.

THE interesting article by Dr. H. HANDFORD, on "The Needs of the Body on Sunday," which appeared in THE LANCET of Nov. 10th, p. 1283, is an admirable illustration of the useful work which might often be done by members of the medical profession in the direction of calling public attention to the requirements of physiology and to the bearing of these requirements upon the conduct of life. The article to which we refer was an address read before the Southwell Diocesan Conference and may perhaps be said to have betrayed, in more than one of its paragraphs, that it was to some extent adjusted to the susceptibilities of a largely clerical audience and that the author somewhat hesitated to speak with that fulness of authority which he was clearly entitled to assume. He made, nevertheless, a definite assertion that the customary periodic rest from labour is as urgently demanded upon physiological as upon religious grounds, and that, if religion had been silent upon the subject, the demands of health would still have been irresistible. The suggestion that the Israelites, during their captivity in Egypt, had suffered in health and well-being from uninterrupted and compulsory labour, and that the experience hence derived might explain the stringency of the Mosaic law concerning the Sabbath, is at once probable and ingenious; but it is certain that the necessity for holidays or festivals has been experienced in other and widely sundered communities, and that such holidays have been observed from very remote antiquity among peoples who have had no opportunity of deriving them either from one another or from any common source. The Athenian calendar contained some 50 or 60 days on which all business was suspended; and in the Augustan age of Rome the annually recurring festivals were at least 60 in number. Some of these were, indeed, of recent introduction and were due, according to MOMMSEN, to the influence of two closely allied powers, the foreign priest and the foreign cook; but it is not difficult to suppose, a sense of the utility of holidays having once been established, that a comparatively small inducement would lead to an increase of their number. In the France of the eighteenth century they had multiplied exceedingly and probably in great excess of the advantages to be derived from them, insomuch that, sheltered as they were under the name and prestige of religion, they furnished ground for many of the most bitter diatribes of VOLTAIRE who pointed out that the priests, although forbidding work on what they called days of obligation, even though precious harvests might be spoiling, had no word of disapproval for the attendant systematic drunkenness. A curious contrast was furnished by the comparative austerity of Scotch manners, the Directory of the Westminster Assembly, which was accepted by the Church of Scotland in 1645, having declared that there is no day commanded in Scripture to be kept holy but the Lord's day, which is the Christian Sabbath, and that festival days, vulgarly called holidays, having no warrant in the Word of GOD, are not to be continued. This, undoubtedly, has also become the ordinary English practice, although there are certain public schools in which the red letter days of our calendar are still observed and in which a reverence for "saints" has consequently been kept alive among old boys for a number of successive generations.

The number seven has in many ages and among many peoples been invested with some character of peculiar sanctity, and Dr. HANDFORD appears to believe that each recurring seventh day has some special fitness as a period of cessation from labour. He would even apply the principle to horses and he suggests that the French revolutionary calendar was abandoned because the *décadi* were too far apart to afford the necessary repose. We have been informed that the horses of the London General Omnibus Company are allowed every ninth day for rest and their condition appears to show that this is fully sufficient for their needs. As regards the *décadis*, it must not be forgotten that they were supplemented by 34 other appointed festivals during the year, such as the Festival of Hatred of Tyrants and Traitors, the Festival of Unselfishness, the Festival of Filial Affection, and others of like kind, making a total of 70 compulsory holidays instead of 36, so that on historical grounds Dr. HANDFORD'S hypothesis must probably be abandoned in favour of the commonly received belief that the return to the ordinary calendar was due to the many inconveniences attendant upon the employment of the new one, and also to the willingness of the French people to turn their backs upon a very melancholy period of their history. However this may be, it is at least certain that the Scottish one day in seven no longer satisfies the desires of our own countrymen; indeed, a great extension of the periods of rest required by our ancestors, or even by our fathers or grandfathers, has come to be accepted almost universally as a necessity of well-ordered living. The Sunday holiday has absorbed into itself a large and constantly increasing portion of Saturday, a portion which among the wage-earning classes is more and more devoted to sport of various descriptions, and which, among many who are better off, is rapidly forming an essential part of those "week-ends," the observation of which has been so greatly facilitated by the bicycle and the motor-car. The weekly holiday has almost ceased to be a period of rest or of recreation, in the proper sense of the latter much-abused word, and has been largely converted into a season of effort and of turmoil, a time for the pursuit of sports associated with the excitement of gambling, or a period of lavish hospitality not wholly free from a tendency towards excess. We have strayed a long way from the Sunday of ADDISON, the time at which the residents in every neighbourhood met together with their best faces and in their cleanliest habits to converse with one another upon indifferent subjects, to hear their duties explained to them, and to join together in adoration of the Supreme Being. Has the change been altogether an improvement?

Dr. HANDFORD would clearly reply to this question in the negative, for he declares the utility of mere pleasure to be small and says that the chief Sunday need of the brain-worker is for fresh air and moderate exercise, while that of the muscle-worker is for bodily rest and intellectual amusement. The word "intellectual" appears to us to be pitched in somewhat too high a key to be accurately descriptive of the ordinary exercise of the powers of observation and reflection with which the average muscle-worker can be

credited; but there is perhaps no harm in being somewhat ambitious, even in phraseology, and in exceptional cases the acts concerned may possibly make some approach to the level of the description. Dr. HANDFORD devoted a good deal of his paper to explaining that no arbitrary distinction can be drawn between "body" and "mind," and his explanation might perhaps have been rendered even more clear and more instructive. The word "mind" is used in totally different senses by different writers and speakers, and without commentary is practically unintelligible. In its original sense it postulated the existence of an entity in some way associated with the bodily structure but nevertheless independent of it, which furnished the basis of all intellectual operations. It was regarded for centuries as an essential attribute of mankind and as distinguishing man from "the beasts which perish." In the face of modern investigation the old hypothesis has become untenable. But even on the basis of the old hypothesis we cannot conceive of rest as a necessity for an immaterial and undiscoverable existence, for it cannot be the "mind" for which rest is required but only the material organ of mental operations, the brain. It is probable, moreover, that ideational activity of the brain is less wasteful of the organ than the contractile activity of muscle; for we know that the brain may be at work without our knowledge, as is shown by the occurrence of dreaming, both in mankind and in animals, at times when the muscular system is in the repose of slumber. It is certain that the activity most wearing to the brain is emotional activity, worry, anxiety, and the like; and the working man who bets upon horse-races will be likely to do more harm to his brain in a week than would be done by the investigations or the meditations of a philosopher in a twelvemonth. We trust that the excellent example set by Dr. HANDFORD may be followed by other members of the profession, when opportunity offers, and that they will insist not only that rest is required but will also point out in what way it should be so used as to obtain all the benefits which it is calculated to afford.

Annotations.

"Ne quid nimis."

METROPOLITAN LUNACY STATISTICS.

THE volume of London Statistics recently issued by the County Council contains some instructive facts relating to the distribution of pauper lunacy in the metropolis which possess more than local interest. It appears that on Jan. 1st, 1905, the number of pauper lunatics chargeable to the several metropolitan unions was 25,136, showing a ratio of 5·43 per 1000 of the estimated population. The average proportion of pauper lunatics to the total population of England and Wales, at the same date, did not exceed 3·20 per 1000. The ratio of pauper lunacy in the several metropolitan unions showed very striking variations; the lowest rates were 2·2 in Hampstead, 2·7 in Lewisham, and 3·3 in Wandsworth, while the rates ranged upwards to 8·6 in Holborn and in Westminster, 8·8 in Whitechapel, and 14·1 in the Strand union. It is not surprising to find that the low rates of pauper lunacy in Hampstead, Lewisham, and Wandsworth are co-related with low rates of general pauperism; while in Holborn, Westminster, Whitechapel, and the Strand the general pauperism rates are, on the other hand, considerably above the average. This agreement between the lunacy and pauperism rates is not solely due to the varying social condition of the population of the several unions. Pauperism and lunacy ratios are invariably affected by migratory changes in the population. The migrants from a declining population consist mainly of the more active and healthy young adults, leaving behind the less active and healthy, together with the elderly and aged, in abnormally large proportion to the total population. The effect of migration on pauperism and lunacy rates is accentuated by the fact that a large portion of the migrants retain their connexion with the place of their birth, to which they frequently return on failure of health or strength. Thus may the contrast between the rates of insanity in the Hampstead and the Strand unions be to a great extent explained. The recently published report of the Inspectors of Lunatics in Ireland attributes a considerable proportion of the high rate of lunacy in Ireland to the effect of the wholesale and long-continued emigration of young adults and to the return to Ireland, from the United States and our colonies, of a not inconsiderable number of the present inmates of the district asylums, thus raising the recorded proportion of the insane in the declining population of Ireland. The same disturbing influence affects the rates of lunacy and also of pauperism in the various English counties. The recorded lunacy rates are almost invariably high in those counties (for the most part rural) which show a stationary or declining population, whereas in the industrial counties with high rates of increasing population the proportion of the insane is almost as invariably below the average. These facts are probably responsible for a general and possibly unfounded impression that rural populations are more liable to insanity than are urban populations. For instance, the high recorded rate of existing lunacy in the county of Wilts is, without doubt, to a considerable extent due to the large proportion of migration from the county that has been in progress during the last 50 years. The late Sir B. W. Richardson, in an article on the prevalence of insanity published in the *Journal of Mental Science* in 1869 came, however, to the conclusion that "insanity is an upshot of mental inactivity" and that "our uneducated, cloddish populations are its chief breeders." This conclusion and many others relating to the prevalence and causation of insanity still call for full and careful study and examination before they can with assurance be accepted. The statistics on the subject at present available do not, unfortunately, supply the necessary materials for the satisfactory solution of the many problems connected with mental unsoundness.

THE ROYAL SANITARY INSTITUTE.

A PROVINCIAL sessional meeting of the Royal Sanitary Institute will be held at the Imperial Hotel, Malvern, on Saturday, Dec. 1st, at 11 A.M., when a discussion will be opened on "The Area for Sanitary Administration" by Mr. J. W. Willis Bund, the chairman of the Worcestershire county council. The chair will be taken by Colonel J. Lane Notter, R.A.M.C., chairman of the council of the Royal Sanitary Institute, and the following gentlemen will take part in the discussion—namely, Dr. F. T. Bond, medical officer of health of the Gloucester combined districts; Professor A. Bostock Hill, medical officer of health of the Warwickshire county council; Mr. Herbert Jones, medical officer of health of the Herefordshire combined districts; Dr. J. Middleton Martin, medical officer of health of the Gloucestershire county council; and Dr. J. Robertson, medical officer of health of Birmingham. Subsequently a paper will be read by Mr. W. Osborne Thorpe, of the Malvern Waterworks,

entitled "Progress in Works of Public Health in Malvern in Recent Years," on which a general discussion is invited. After the meeting luncheon will be held at the Imperial Hotel, for which a charge of 2s. 6d. will be made, and at 2 30 a visit will take place to the Malvern sewage farm and other municipal institutions. Tea will be provided subsequently. Arrangements have also been made for members who wish to spend the "week-end" in Malvern. Tickets and further particulars may be obtained from Mr. G. H. Fosbroke, Shire Hall, Worcester, and from Mr. E. White Wallis, secretary of the Royal Sanitary Institute, Parkes Museum, Margaret-street, London, W.

PORT, MEAT, AND MALT.

ON several occasions in these columns we have exposed in the light of indisputable evidence that very common fallacy of a large section of the public that the restorative properties of port wine are immensely increased by the addition to it of extracts of meat and malt. The fact is, this triune formula sounds as though some constituent of it, if not all three, must do good. The idea is cherished that to begin with the port "makes blood," then the meat is food, and, finally, the malt aids the digestion of the whole. Now, what is the real truth concerning meat and malt wine when viewed in the cold light of chemical analysis and physiological considerations? It is interesting first of all to glance at the formula and directions given for the preparation of such wine in books commonly referred to by meat and malt wine compounders. We are told that a good quality of port, admirably suitable for the purpose, can be obtained at from 6s. to 8s. per gallon and when "port wine" is prescribed "Spanish port" or Tarragona may be used. So much for the quality of the wine used, and we can hardly pick a quarrel with this, for no one who understands wine at all, and especially fine old port wine, would think of spoiling its estimable flavour if not its other good properties by mixing it with beef and malt extracts. Next, the extracts are "rubbed down" with the wine and the mixture is allowed to rest. Finally, it is enjoined to filter the wine *from the sediment*. The removal of this sediment entirely defeats the object of the compounder, for in it will be found the small proportion of real nutritive substances which exists in the extracts of malt and meat. In the language of the materia medica in fact port wine is practically incompatible with malt and meat extract. This is very forcibly shown in a number of analyses which we have made of many meat and malt wines offered to the public as invigorators and restoratives. In all we examined seven such preparations. The total nitrogen found in such wines seldom exceeds 0·03 per cent. and a very small proportion of this is nutrient nitrogen. Raw beef contains a total of 4 per cent. of nitrogen, while roast beef contains 5·4 per cent. of nitrogen. So much for the "food" part of beef and malt wine. As to the malt which is added, presumably this is regarded as a "digestive." So possibly it might be were it not for the fact that the activity of the starch-digesting principle in malt is impaired, if not suppressed altogether, by the alcohol and other constituents of the wine. In our experiments not a particle of starch was converted into the soluble variety. So much, then, for the "digestive" side of "meat and malt" wine. It remains to consider whether the port wine contains any added virtues at all which can be traced to meat and malt. We can only suggest one or two advantages of very trifling import. Such wine would contain some malt sugar and phosphates derived from the malt and some extractives from the meat. These extractives, as has been again and again pointed out by the highest authorities, possess no food value whatever; they merely serve as stimulants which excite the flow of the gastric juice. Port wine alone does this, so the meat adds nothing new to it in this respect. Meat and malt wine is, in fact, a farce—as these considerations abundantly testify. It is obviously absurd to add substances to port wine which serve little better than condiments. If an invalid is in need of the restorative properties of meat, malt, and wine he would do far better, and in reality it would cost him less, if he took his meat and malt extract separately and with them, if permissible, a glass of port. The idea that beef can be combined serviceably with wine is a delusion and a snare. A glass of good sound port with an ordinary biscuit would be much more satisfactory, and certainly a biscuit contains much more nutriment than it is possible to dissolve in a glass of port wine.

BILHARZIAL DISEASE IN JAPAN.

RECENT researches in Japan have established the fact that a form of bilharzial disease occurs in that country and further that the parasite causing the disease is a special form of trematode to which the name of schistosomum Japonicum has been given by Professor Katsurada.[1] An interesting account of the condition with the pathological anatomy of a fatal case is given by Dr. T. Tsunoda and Dr. S. Shimamura of Kioto in the *Wiener Medicinische Wochenschrift* of August 18th, p. 1682. The first clear account of the occurrence of this disease was given by Professor Fujinami in 1904. He observed in the village of Katayami in the province of Bingo an endemic disease characterised by enlargement of the liver and spleen, ascites, blood in the stools, and severe disturbances of general nutrition. The disease is generally described in Japan as "the Katayama disease" from its occurrence in that neighbourhood, but it is now known to occur in the provinces of Yamanashi, Hiroshima, and Saga. In his first fatal case Professor Fujinami found the ova of a parasite in various organs, and in a second case at the necropsy he found a parasite which he regarded as distoma (schistosomum) hæmatobium in a branch of the portal vein, and further in this case there were ova in the liver which was cirrhotic, in the intestinal wall, in the mesenteric glands, and in the pancreas. Almost simultaneously Professor Katsurada observed cases of similar character in another province (Yamanashi). He found the ova of a parasite in the fæces and in the organs, and also found that the cats of the province were infested with the same worms. He was able to secure the adult parasites from the portal vein and mesenteric veins and to differentiate them from the ordinary form of bilharzia; he therefore applied the name of schistosoma Japonicum. In the same year a parasite was found by Dr. J. Catto in the mesocolon of a Chinaman from the province of Fukien who died in the quarantine station, Singapore; to this parasite the name schistosoma Cattoi was applied by Professor Blanchard. Subsequent investigations have revealed the identity of this parasite with that described by Professor Katsurada. Although these observations were the first to establish the nature of the disease its existence has long been known. As far back as 1888 Dr. Majima in Tokio found peculiar parasitic ova in the liver of a case of cirrhosis. These he described as the ova of an unknown parasite. In 1890 a similar case Professor Yamagiwa found ova which he regarded as derived from a distoma in the lungs. The symptoms of the disease as a rule seem to be general wasting, anæmia, ascites, abdominal distension, and blood-stained stools, and in the majority of cases the ova are found in the fæces. Comparatively few necropsies are on record, but the chief pathological conditions found have been chronic interstitial hepatitis, chronic peritonitis, ascites, enlargement of the spleen and of the mesenteric glands, dilatation of the

[1] Annotationes Zoologicæ Japonenses, vol. v., part v., 1904.

portal vein, and small greyish-white nodules in the lungs and other organs. The ova are found abundantly in these organs imbedded in thickened connective tissue. The parent organisms are found in the portal veins and in the smaller mesenteric blood-vessels. They have a smooth, non-tuberculated skin and present sufficient differences from the schistosomum hæmatobium to justify their separation into a distinct species. The case which forms the subject of the paper by Dr. Tsunoda and Dr. Shimamura was that of a peasant, aged 32 years, living in the neighbourhood of Katayama. His illness dated from 1901, beginning with digestive disturbances, periodic abdominal pains, and irregularity in the action of the bowels. In February, 1903, he developed some disorder of speech and tremor in both upper and lower extremities with headache and some mental disturbance. The left lobe of the liver was palpable. In November of the same year he suffered from vertigo and Jacksonian fits (two or three daily) and later right hemiplegia supervened. He died in August, 1904, and at the necropsy diffuse thickening with hæmorrhagic infiltration of both the dura mater and the pia mater were found; in the brain itself a number of wedge-shaped sclerotic areas were found of greyish colour and surrounded by some ecchymosis. In the lenticular nucleus, optic thalamus, and internal capsule of the left side there was an area of softening of the size of a walnut. In the right hemisphere and in the cord no macroscopic lesions were found. On histological examination these areas were found to contain ova in considerable numbers, imbedded in neuroglia and surrounded by softened and degenerated brain tissue. Similar ova were found in the membranes and a few in the right hemisphere and in the choroid plexuses of the lateral ventricles. These lesions were doubtless produced through embolism of the cerebral arteries by the ova. The liver was slightly decreased in size and firm in consistence, while the interstitial tissue was increased; the spleen was firm and showed slight venous hyperæmia. Ova were found in the liver, in the walls of the small and large intestine, especially in the submucosa, and also a few in the lungs, the stomach, and the pancreas. The ova presented an oval form and a thin shell with a distinct double contour. No parent organisms were found and the writers are of opinion that probably they may occur in the vessels of the systemic circulation as well as in the portal system. The peculiar cerebral symptoms observed and their relation to the parasitic ova deposited in the brain render this case noteworthy. It will probably be found that this parasite is more widely distributed than is at present known and Dr. Catto explains the fact that it has been overlooked before by the resemblance of its ova to those of uncinaria duodenalis.

THE PASSING OF THE BROOM.

THE broom threatens soon to be as obsolete as the old copper warming-pan, judging from the number of vacuum dust removers which are being placed upon the market. The change is one which must meet with the unqualified approval of all who know what a breeding ground of disease is the common dust of our houses. Every housewife who is possessed of cleanly instincts should welcome an apparatus which removes dust instead of scattering it in all directions, lost to the senses, so to speak, for a time by its attenuation in air, only sooner or later to settle again on the shelves, pictures, curtains, and carpets in a thin film. Moreover, the removal of dust and its collection in a receptacle by means of the vacuum cleaner permit of its absolute destruction by fire. Bacteriological science can easily demonstrate the existence of disease germs in common household dust and there is evidence of an eminently practical character that dust is otherwise a source of disease; there could hardly be a more effectual means of spreading the infective and irritating particles than the old-fashioned broom. The method is not only insanitary but absurd from the point of view of its application. The broom may clean the surface of a carpet, chair, or curtain effectually enough, but the dust is only removed to be scattered elsewhere and to be spread over an even wider area than before. The great and important difference between the cult of the broom and the vacuum cleaner may be summed up by saying that while the former is calculated to spread disease the latter enables the dust and its pathogenic contents to be removed and destroyed by fire. The method of removing dust by means of the vacuum cleaner has therefore everything to be said in its favour and it is to be hoped that the apparatus will become so moderate in price as to be within the reach of all. The passing of the broom, when it comes to be *un fait accompli*, will be a fact of great sanitary significance.

THE STABILITY OF ELECTRICALLY-PRODUCED HYPOCHLORITE.

IN an interesting paper read before the Faraday Society on Nov. 13th Mr. Charles V. Biggs, M.S.E., A.I.E.E., referred amongst other things to the stability of the solution obtained by the electrolysis of sodium and magnesium chlorides. We ourselves have had occasion to test this point in connexion with the electrolytic plant recently established at Poplar for the production of a disinfectant fluid and it is interesting to find that our observations are confirmed. Mr. Biggs collected data from "runs" at this installation in the ordinary course of working for supplying disinfectant to the borough. The results go to show, he says, the eminently practical nature of this installation, as well as its efficiency, and the small amount of supervision and labour which are necessary. Specimens of electrolysed fluid showing originally a strength of available chlorine of 4·18 grammes per litre showed a strength after keeping for six months of 3·97 grammes per litre. Further observations showed the depreciation of chlorine over the same time to be 0·2 gramme, 0·1 gramme, and 0·3 gramme. In seven months the depreciation was in two instances 0·1 gramme and 0·5 gramme respectively. The pressure in the former case was 300 and in the latter 200. Nor do the high temperatures at which some of the samples were produced generally support the belief that the hypochlorite solution deteriorates rapidly if made under such conditions. A specimen made on Oct. 2nd at a temperature of 104° F. and showing a strength of 5·4 grammes per litre was tested three hours later to see if immediate depreciation took place in the hot liquids. The test gave 5·3 grammes for the whole of the electrolytic fluid made. The principal conclusions are that:—

(a) The manufacture of hypochlorite solutions can be carried on by a process which is practically automatic.
(b) For an output of 200 gallons per eight hours at four grammes per litre the capital cost, including buildings and fittings, should not exceed £500.
(c) Where continuous current is available the series system of electrolysing is the most suitable. Where alternating current only is to be had, and a motor-generator must be installed, fewer cells may be employed. In the Poplar plant about one gramme per litre is added for every ten cells.
(d) And a warm climate would not affect the manufacture at any rate of the magnesium hypochlorite.

Another paper was read by Mr. W. Pollard Digby, A.M.I.E.E., who showed the conditions under which the electrolysed salt solution was stable. Even after five years experiment proved that when kept in dark amber bottles the solution showing at first a strength of 4·21 still showed available chlorine to the extent of 2·50 grammes per litre. It may be added that at Poplar Mr. F. W. Alexander, the medical officer of health, has introduced several improvements which have resulted in producing a stable fluid. The most important of these is the addition of caustic soda solution, drop by drop, to the electrolysed fluid as it leaves

the decomposing cells, and thorough mixing by means of a whisk provided with rubber flaps. The result is probably a double salt of magnesium and sodium hypochlorite which is considerably more stable than the single salt of magnesium. What may be true, therefore, of the original Hermite fluid in regard to its instability does not apply at all to the alkalised fluid produced at the Poplar installation.

A PURER MILK-SUPPLY.

TESTIMONY is afforded to the fact that the general public is beginning to appreciate the necessity for a purer milk-supply by the notices upon milk carts and in milk shops and by other signs. But although in a considerable number of isolated instances great improvements have been made it cannot be said that the general advance is either so rapid or so thorough as could be wished. In many instances the presence of the word "pure" upon the front of the shop or upon the vessels in which the milk is exposed for sale is the only reply of the milk vendor to the general demand for improvement. The exposure of milk for sale in an open vessel in a shop where general provisions are sold and where much business takes place is not a measure which is rendered less dangerous by displaying the words "pure milk" upon the vessel itself. But this is a practice which is not now uncommon in the retail milk trade. The use of the word "pure" in relation to milk should, we suggest, be rendered illegal when the cows which supply it are bespattered with dung and when the cowhouses in which the cows live are devoid of light and defectively ventilated, while the walls are covered with dust and cobwebs. Yet that this is a faithful picture of many of the cowsheds in our rural districts is a fact which anyone familiar with the circumstances will readily admit. It would be well if the actual conditions obtaining in some of these instances where "pure" milk is exposed for sale were made public. But all this notwithstanding, progress is being made and pressure is being exercised in numerous directions. The most recent illustration of these efforts is a report drawn up by a committee appointed by the Royal Institute of Public Health, in which a short summary of the dangers to be anticipated from the consumption of polluted milk is furnished and some suggestions are made for the modification of the Dairies, Cowsheds, and Milkshops Order of 1885, and of the regulations which may be made under such Order. Many of the suggested additions might be accepted with advantage, although certain of them may, we imagine, be held by the legal mind to be redundant. It is proposed, *inter alia*, that a local authority shall only register such persons as it may deem suitable, and it is contemplated that such registration would thus partake of the nature of a licence. There are certain dangers connected with licences of this nature, and unless the premises to which they relate are much more systematically inspected than is the practice throughout the country at the present time, the licences may be put to very undesirable uses. A similar danger obtains where certificates of analyses of milk and other foods, which relate perhaps to only one sample examined months since, are exhibited in a shop window, and in a sense imply the satisfactory character of all the articles sold in that shop. It is obviously not a difficult matter to secure samples which will yield admirable results analytically, but what is wanted is some guarantee that the milk offered for sale is wholesome. The proposals made by the committee for specifying more particularly than is at present the case the amount of light to be admitted into cowsheds and the manner in which ventilation is to be effected should prove helpful in the matter of administration of the model regulations, and we quite agree with the committee that the adoption of such regulations should be compulsory upon local authorities. Similarly we are in general agreement with the suggestions as regards water-supply and the cleanliness of the cows' udders and the milkers' hands. The committee has also made some useful proposals as regards the construction of new buildings and for the management of farms. But the main question in connexion with the milk-supply problem is the awakening of the public conscience, more particularly in the rural districts, to the absolute necessity of greater general cleanliness in connexion with buildings, cows, milkers, straining, cooling, transit, and storage, and in our view such awakening would be best and most speedily brought about by the publication of the actual conditions obtaining in certain instances in each of the districts within the several counties. We are aware, however, that with the agricultural interest so powerfully represented on district councils there will be great difficulty in carrying the suggestions into operation, and we are glad to see that the committee, of which Dr. W. R. Smith was chairman, is of opinion that where a local authority is in default obligation for enforcing the Order should devolve upon the county council.

PARALYSIS DUE TO STRETCHING OF THE ANTERIOR TIBIAL NERVE.

PARALYSIS of the external popliteal nerve is common but paralysis confined to its anterior tibial branch is rare. At a meeting of the Société Médicale des Hôpitaux of Paris on Oct. 19th, M. A. Souques reported a case of paralysis of the anterior tibial nerve due to an unusual cause—its elongation during kneeling. A man, aged 61 years, gathered grapes for about 12 hours daily, kneeling on one or other knee in the military position for firing. In this position the knee rests on the ground and the foot is extended on the leg, forming with it an obtuse angle. On the evening of the first day the patient found that he could not lift the point of his left foot or straighten the toes. However, he continued the work for a week. A fortnight later he came under observation with signs of paralysis of the anterior tibial nerve. The foot was in the equinus position. It could not be flexed or maintained in the flexed position after being placed in it. The same was true for the toes. On the contrary, lateral movements of the foot were normal. The knee-jerks and tendo Achillis reflexes were normal. The tibialis anticus and the extensors of the toes gave the reaction of degeneration. The reactions of the peronei and of the muscles supplied by the internal popliteal nerve were normal. Sensibility was unaffected. The case is of interest not only on account of the rarity of paralysis of the anterior tibial nerve but also in regard to the mechanism by which this paralysis was produced. It has been suggested by Raymond and Brunel that in the extended position of the foot the projection of the astragalus which occurs on the dorsum stretches the anterior tibial nerve. Granting that the paralysis was due to elongation of the nerve, at what point was the lesion situated? It must have been above the point of origin of the branches supplying the paralysed muscles and, as sensibility was unaffected, below the point of division of the external popliteal nerve into the anterior tibial and musculo-cutaneous branches. M. Poirier has described a groove running obliquely downwards and forwards on the fibula which is converted into an osteo-muscular tunnel by the fibres of origin of the peroneus longus. The two orifices of this tunnel are bounded by aponeurotic arches. The external popliteal nerve enters the upper orifice and almost immediately divides into the musculo-cutaneous and anterior tibial nerves. The latter nerve traverses the tunnel and after emerging from it forms a bend and descends the leg. Thus, in its upper part the anterior tibial nerve is situated in a tunnel and rests on a resistant surface of bone, as on a sort of pulley. M. Souques thinks that in this position it is

most exposed to the injurious effects of elongation, which would produce a sort of compression, and that in his case the lesion was situated here.

LEADLESS GLAZED WARE.

AN exhibition of leadless glazed china and earthenware was held at the Church House, Westminster, on Nov. 20th, 21st, and 22nd, and during the proceedings addresses were given by the Very Rev. the Dean of Westminster, the Rev. H. Russell Wakefield, the Right Hon. Sir Charles Dilke, Bart., M.P., the Earl of Lytton, Mr. H. J. Tennant, M.P., and Sir John MacDonell, C.B., LL.D. The proceeds were allotted to the Potteries Fund. The exhibition was organised by Canon Scott Holland and the Research Committee of the London Branch of the Christian Social Union (8, Pont-street, S.W.). The excellence of the exhibits is a source of gratification to all those who, like ourselves, take an active interest in the development of the leadless glaze industry. As our readers may remember, we were amongst the first to draw attention to the excellent results which potters were obtaining in the direction of glazing pottery absolutely without the use of a lead compound at all. We submitted to our readers these results in the light of actual practical tests instituted by ourselves. Our report was received with incredulity by many representatives of the ceramic industry who declared that it was impossible practically to dispense with lead compounds. The recent exhibition at the Church House is a striking refutation of this view. We were glad to notice that several of the Government departments exhibited specimens of leadless glazeware which are in everyday use, thus practically demonstrating their conviction of the truth of the conclusions which were arrived at by the Special Commissioners appointed to inquire and to report upon the question some years ago. This report was published some time after our own articles on the same subject had appeared.

THE INTERFERING ACTION OF DRUGS IN THE CLINICAL EXAMINATION OF URINE.

THE difficulties attending the clinical examination of urine through the interfering action of various drugs are dealt with by M. J. Bonores in a recent number of the *Gazette Hebdomadaire des Sciences Médicales de Bordeaux*. Thus in the search for indoxyl-sulphate of potassium in the urine of a patient undergoing treatment with iodides the addition of hydrochloric acid and chloroform in all cases gives a positive reaction, as the chloroform is tinted violet by the liberated iodine. It has been shown by Professor Denigès that the addition of a crystal of sodium hyposulphite destroys the colour due to the iodine without affecting the indigotine. The determination of the xantho-uric bodies in urine is rendered inaccurate when the patient is taking theobromine, caffeine, rhubarb, or iodides. In the case of theobromine the error is due to the fact that in the presence of ammonia and a magnesium salt an insoluble compound of silver and theobromine is formed on warming. Caffeine gives a similar reaction, and the colour of rhubarb interferes with the usual tests. The search for albumin is hindered when methylene blue, balsam of copaiba, tincture of myrrh, terpin hydrate, and urotropine are given as medicines. Thus, methylene blue yields a precipitate with Esbach's reagent, owing to the action of picric acid on methylene blue. In the case of balsam of copaiba it is impossible to examine urine for albumin with nitric acid, as the whole precipitate, including albumin and resin, is dissolved in the alcohol which is added to dissolve the resin alone. The oils of sandal wood and turpentine act in a similar manner. When these drugs, as well as cubebs and coal-tar, are given internally, chromic acid gives a precipitate even in the absence of albumin. But the addition of strong alcohol removes this source of error by dissolving the precipitate. After a patient has been taking tincture of myrrh for several days the urine gives on boiling a false indication of the presence of albumin and the addition of nitric acid leads to a similar error in the case of terpin hydrate. When bromine water is added to an albuminous urine a yellowish precipitate is produced; urotropine also gives an orange-yellow precipitate with bromine water. These apparently similar results may be distinguished by warming the urine, when an albuminous precipitate forms a coagulum, whereas a urotropine precipitate is dissolved. The determination of glucose in urine by the method of polarisation may be partially or totally negatived by the presence of arbutin, peptones, quinine, benzosol, and other lævogyrate substances Such urines do not reduce Fehling's solution. When urines are coloured by the administration of methylene blue the determination of the sugar present by the saccharimeter is rendered very difficult. The colour should be destroyed by the addition of nitrate of mercury, or better by filtration through 5 or 6 per cent. of animal charcoal.

THE PREPARATION OF YELLOW OXIDE OF MERCURY OINTMENT.

IN the November number of the *Ophthalmoscope* Dr. W. Harrison Martindale contributes a valuable paper on the yellow oxide of mercury ointment, also known as Pagenstecher's ointment. He undertook a series of experiments to determine the best mode of producing the mercuric oxide in the state of an impalpable powder perfectly free from hard particles and grittiness and gave some attention to the choice of a suitable basis. He recommends the fresh precipitation of the mercuric oxide by adding a dilute solution of sodium hydroxide to a dilute solution of mercuric chloride. One and a quarter pounds of mercuric chloride yield one pound of yellow oxide of mercury, which is well washed, pressed within linen free from fluff, and mixed while moist with soft paraffin to produce ten pounds of a 10 per cent. ointment. The product may be kept under water or in collapsible tubes. Dr. Martindale examined the contents of tubes after two years' storage and found them to be in good condition. But when long exposed to light the surface of the ointment darkens in colour. The following strengths of the ointment are employed: 1·25, 2·5, 4, 5, 8, and 10 per cent. As regards the choice of a basis, Dr. Martindale has obtained the best results, from a pharmaceutical point of view, with the yellow variety of soft paraffin. Other bases have been commended by various investigators,[1] including combinations of soft paraffin with wool fat, e.g., anhydrous wool fat 10 parts, and spermaceti ointment (free from benzoin), or white soft paraffin 90 parts. The addition of castor oil has also been suggested with the object of rendering the ointment more readily absorbable. The United States Pharmacopœia directs the trituration of one part of the oxide of mercury with an equal weight of water until the product is perfectly smooth; four parts of hydrous wool fat are then added in portions, and lastly, four parts of soft paraffin are incorporated. Dr. Martindale has also obtained good results by adopting this method. It is satisfactory to know that the preparation of this ointment now presents no difficulty, a point of much importance to ophthalmic surgeons.

THE Hughlings Jackson lecture of the Neurological Society of the United Kingdom will be delivered by Sir Victor Horsley on Thursday, Nov. 29th, at 11, Chandos-street, Cavendish-square, London, W., at 9 o'clock P.M. Sir Victor Horsley has taken as his subject the Illustration by

[1] Compare THE LANCET, March 31st, 1906, p. 920.

Recent Research of Dr. Hughlings Jackson's Views on the Functions of the Cerebellum.

AT the next meeting of the Royal Medical and Chirurgical Society on Tuesday, Nov. 27th, at 8.30 P.M., the special discussion will be continued on the Operative Treatment of Non-malignant Ulcer of the Stomach and its Chief Complications. The adjourned debate will be opened by Dr. Norman Moore.

THE death is announced, at the early age of 36 years, of Dr. William Lloyd Andriezen. He was educated at University College Hospital, London, and in Paris and had done excellent work on the subject of the pathology of the brain. We hope to publish further details of his career in a future issue.

A TELEGRAM from the Mauritius received at the Colonial Office on Nov. 16th states that for the week ending Nov. 15th there were 52 cases of plague and 30 deaths from the disease.

THE next session of the General Medical Council will open on Tuesday, Nov. 27th, at 2 o'clock P.M.

IRISH POOR-LAW REFORM: THE REPORT OF LORD DUDLEY'S COMMISSION.

THE following is the Commissioners' summary of their recommendations; a leading article will be found at p. 1451 commenting on the report.

1. The poverty of Ireland cannot be adequately dealt with by any poor relief law such as that of 1838, but by the development of the country's resources, which is, therefore, most strongly urged.
2. The English and Scottish Removal Acts, so far as they relate to Ireland, should be repealed.
3. The present workhouse system should be abolished.
4. The various classes of inmates, except children, should be segregated into separate institutions.
*5. The existing hospitals, whether Poor-law or county, should, except in a few cases, be retained in their present localities, but all should be placed under the management of county and district committees.
6. Such hospitals should, as far as possible, be used only for the acute sick.
7. A sufficient number of consumptive sanatoria should be established.
8. Additional cottage hospitals should be established at certain places in Ireland, and the system of home nursing for the poor extended.
9. A State medical service should be established and the cost thereof defrayed out of money voted by Parliament.
10. Right of admission should be given to the district hospital nearest to a patient's residence.
11. The "aged and infirm" of all the workhouses within a convenient area should be placed in a disused workhouse to be known as the county or district "almshouse," in which proper classification can be carried out.
12. The insane should be removed from Poor-law institutions, and be detained in auxiliary or other asylums under the control of the lunatic asylum authorities.
13. Sane epileptics should be placed in separate institutions, for which purpose disused workhouses will be available.
14. Unmarried mothers should be sent to institutions under religious or philanthropic management, or to "labour houses," and be kept apart from other classes.
15. The question should be considered whether a law ought not to be passed enabling mothers to proceed in their own name against the putative fathers of their children, and to obtain affiliation orders.
16. Infants should be placed in "nurseries," either under religious and philanthropic management, or, when disused workhouses are used, under Poor-law control.
17. All children between infancy and maximum limit of age should be boarded out. Certain cases might be temporarily placed in certified or industrial schools.
18. The Poor-law district schools of Glin and Trim should be dissolved as Poor-law schools.
19. Casuals and vagrants should be detained for long periods under magistrates' warrant in "labour houses," under the control of the General Prisons Board, and be maintained out of Imperial funds.
20. Genuine working men about to travel to seek employment should be provided with satisfactory documentary authorisation for obtaining from relieving officers food and lodging during their journey.
21. Two disused workhouses should be handed over to the War Department for the accommodation of pensioners, ex-soldiers, reservists, and militiamen, who claim support owing to destitution.
22. Special casual wards should be established in Dublin, Belfast, and Cork, and possibly in Limerick and Waterford.
23. Destitute respectable widows with only one legitimate child should be eligible for outdoor relief.
24. Clause prohibiting the granting of outdoor relief to be afforded to the occupier of more than a quarter of an acre of land should be repealed.
25. The area of charge for outdoor relief and for children sent temporarily to industrial and certified schools should be the electoral division, with an adequate rate-in-aid as regards outdoor relief for towns.
26. Guardians should be empowered to strike and collect a special rate for outdoor relief.
27. The cost and maintenance of boarded-out children between infancy and maximum limit of age should be a union charge.
†28. The expenditure on the sick, aged, and infirm, epileptics, lunatics, infants, and unmarried mothers in institutions should be defrayed out of a county-at-large rate.
29. Vagrants, casuals, and other classes sent by a Court of Justice for detention in "labour-houses" should be maintained out of money voted by the House of Commons for prisons. Those remitted by guardians for "test" purposes, or who enter voluntarily to be paid for out of the county rate.
30. All existing officers should be compensated for loss of office and be entitled to receive pensions.
31. The reconstitution of the Poor-law official service and the conditions affecting it should be considered by a temporary commission.
32. The grants-in-aid of local taxation should be apportioned on the basis of the recommendations of some of the members of the Royal Commission on local taxation.
33. The Irish grants-in-aid should be increased as recommended by the Royal Commission on local taxation.
34. The accumulations of the grant for labourers' cottages and allotments and future yearly sums accruing should be given to those districts along the whole West coast that, owing to the condition of the occupiers of land, are unable to obtain any benefits under the Labourers Acts. The grant might be applied to the improvement of the sanitary condition of the dwellings of the occupiers of the land, and be administered by the Congested Districts Board through parish committees.
35. Subject to the adoption of the suggestion as to the striking of a rate for the support of institutions over the county at large, Poor-law unions should not extend beyond the boundaries of one administrative county, except in the case of the county boroughs of Cork, Limerick, Derry, and Waterford.
36. The boundaries should remain as at present in the case of Cork Union.
37. Subject to the adoption of the suggestion as to the striking of a rate for the support of institutions over the county at large, the unions of Limerick should, in the opinion of the majority, comprise the county borough of Limerick and the rural district of Limerick No. 1. Similarly, the union of Londonderry should comprise the county borough of Londonderry and the rural district of Londonderry No. 1, and the union of Waterford should comprise the county borough of Waterford and the rural district of Waterford No. 1.
38. The county borough of Belfast should form the union of Belfast.
39. The county borough of Dublin should form the union of Dublin and the present North and South Unions of Dublin should be dissolved.
40. The number of guardians throughout Ireland should be reduced to the number of elected guardians prior to the year 1898.
41. The Government should take over disused workhouses not required at the time of disuse for any purpose and build suitable hospitals in lieu thereof.
42. Land might be taken compulsorily by provisional order for the purposes of public institutions.
43. Temporary commission should be appointed to prepare for consideration schemes for carrying into effect the recommendations of this Commission should they be adopted to any material extent.

* Dissented from by Mr. Murnaghan only as regards the mode of admission into county hospitals.
† Dissented from by Mr. Murnaghan.

The ninth recommendation, under which, if its principles were adopted by Parliament, an entirely new State Medical Service for Ireland would be established, may be said to include within itself many of the other suggestions. The present lamentable conditions in Ireland are well known to all medical men and some politicians, as is the need for wholesale reform.

ROYAL COLLEGE OF SURGEONS OF ENGLAND.

ANNUAL MEETING OF FELLOWS AND MEMBERS.

THE twenty-second annual meeting of Fellows and Members of the College was held on Nov. 15th, the chair being occupied by Mr. HENRY MORRIS, the President.

The PRESIDENT opened the proceedings by presenting to the meeting the annual report of the Council. He said that he would follow the practice of his predecessors by commenting on a few of the items contained in the report. The regulations for the first examination for the Fellowship had been amended and now the three winter sessions' study at a recognised medical school might be counted from the passing of the preliminary examination in general education, so that candidates who had studied the preliminary science subjects at a non-medical school should no longer be at a disadvantage, for before this change these three winter sessions had to be reckoned from registration as a medical student. On page 13 of the report a table was given showing that though there had been a general falling off within recent years in the number of students entering the medical profession, yet there had been no falling off, but rather an

increase, in the number of students entered for the final examination. In 1891 there were 1111 students registered in England, and in 1900 there were only 698, but in the five years 1891 to 1895 (inclusive) 61·5 per cent. of the students had entered for the final examination of the College, and in the five years from 1896 to 1900 (inclusive) 62·3 per cent. of the students had entered for the final examination of the College. These facts were gratifying. The figures giving the absolute numbers of those obtaining diplomas showed some diminution, especially in the case of the Fellowship, but the figures relating to the Fellowship varied greatly from year to year. In the cases of other diplomas the diminution was slight. There had arisen a demand for a diploma in tropical medicine. The Council had carefully studied the question in conjunction with the Royal College of Physicians of London and as a result of their deliberations it had been decided that it was not desirable at present to grant diplomas in this subject, yet it had been resolved that it would be desirable to take some action in the matter. The matter had not finally been determined and the committee of management was still considering the subject. Probably it would be decided that assessors should be appointed to the examinations conducted by the London School of Tropical Medicine and that to those candidates who held the diplomas of the Royal Colleges and were approved by the examiners certificates, endorsed by the assessors, should be granted. Another matter of importance was the question of the payment of medical men who were called in to assist at difficult labours by midwives under the Midwives Act. At present there was great injustice done to medical practitioners, as there was no compulsion on the statutory authority to pay these medical men. There were only two county councils which had made arrangements for the payment of these fees. Only a few years had elapsed since the passing of the Midwives Act and therefore it was a little early to expect a new Act to be passed, but the Council felt the injustice of the present arrangement and the matter had been brought before the General Medical Council. For the first time the Council of the College had had to remove from its roll Licentiates in Dental Surgery. Under Section 13 of the Dentists Act, 1878, when the name of any person was erased from the Register by the General Medical Council any medical authority of which such person was a Licentiate must also erase the name from the list of Licentiates of such authority. In this matter, therefore, the Council of the College had no option, and the names of three Licentiates had been removed. The Walker prize of £100 had been awarded to Professor Carl Oluf Jensen of Copenhagen for his work in connexion with cancer, and it was satisfactory to know that everyone acquainted with the recent history of work on cancer had agreed with the decision. The Begley studentships were founded by the late Mrs. Jane Begley, widow of William Chapman Begley, a former Member of the College, and Mr. Walter B. Johnson of St. Thomas's Hospital had been appointed the first Begley scholar in accordance with a report from the examiners in anatomy and physiology under the Conjoint Examining Board, regarding the result of the examination completed on April 4th, 1906. The scholarship is of the value of £20 per annum for three years, and is awarded to the student obtaining the highest marks in the anatomical part of the examination. The founding of this scholarship was an admirable example, and he (the President) hoped it would be widely followed. The finance of the year had been satisfactory. It was true that the gross income was nearly £400 less than in the previous year but this was due mainly to lessened receipts from the Fellowship and dental examinations and the balance of income over expenditure amounted to over £2300. It might be interesting to the meeting to learn that copies of the report had been sent to 3036 Members and to 684 Fellows in accordance with the arrangement that any Fellow or Member can have his name put on a list to receive the report each year when issued. The report was now open for discussion.

Dr. WALTER SMITH noticed that the report contained the names of 264 Members of the College who had died during the year. He would like to know whether any attempt was made by the College to reclaim the diplomas of these Members, as he had found that in many cases unqualified persons obtained possession of the diplomas and practised on the strength of them.

The PRESIDENT replied that hitherto no steps had been taken but he would bring the matter before the notice of the Council.

Dr. W. G. DICKINSON asked that the minutes of the last meeting might be read, as he questioned the accuracy of the report.

At the PRESIDENT'S request the SECRETARY read the minutes of the last annual meeting and Dr. DICKINSON stated that what he objected to in the published minutes was the omission of one motion which had been put to the meeting.

Mr. F. W. COLLINGWOOD asked as to the result of the discussion with the Royal College of Physicians of London as to the use of the title of Doctor by the holders of the diplomas of the two Colleges.

The PRESIDENT explained that, though the Council of the College of Surgeons was in favour of this, the College of Physicians did not see its way to agree.

Mr. E. D. VINRACE wished to express his appreciation of the historical summary published in the annual report and the PRESIDENT explained that this had been compiled by the late President, Sir John Tweedy.

Mr. JOSEPH SMITH then introduced the first motion :—

That this twenty-second annual meeting of Fellows and Members again re-affirm the desirability of admitting Members to direct representation on the Council, which, as now constituted, does not represent the whole corporation.

Twenty-two years had elapsed since he attended the first annual meeting held under the presidency of Mr. John Marshall and then he had brought forward a motion couched in almost the same terms, and at every meeting since similar motions had been carried. To all these resolutions the Council had returned the stereotyped reply that it could do nothing. Why should not the Members be polled to see if they as a whole desired the change or not? The Members had suggested schemes for the reconstitution of the Council, such as the election by the Members of a certain number, say six, of the members of the Council, but it was all in vain. However, the Members did not intend much longer to come before the Council with such resolutions. They would apply elsewhere. The sword of Damocles was hanging over the Council and at any moment the hair might give way. The Members had never really surrendered their rights. The time had come when something must be done. The present gross and long-lasting injustice done to the Members could not be allowed to endure much longer.

The motion was seconded by Sir CHARLES F. HUTCHINSON. He considered the present position of affairs to be absolutely anomalous in this democratic age. The Members had no fault to find with the way in which the College was managed but the Members must have their share in the management. The voice of the College was not listened to in the House of Commons, for it was recognised that the Council was not really representative. The College should be in the very van of reform.

Mr. COLLINGWOOD considered that the Members should bear the same relation to the College as the members of a university bore to the university.

Mr. GEORGE BROWN said that at the present time the medical profession was treated with absolute contempt by the Government. When a high Government appointment fell vacant, such as the presidency of the Local Government Board, where the duties required a man with knowledge of medicine and hygiene, they appointed someone utterly unacquainted with the subjects with which he had to deal.

When put to the meeting the motion was carried by 40 votes to 3.

Dr. DICKINSON then introduced the following motion :—

That this meeting recommends that when the question of admitting women to the College examinations is brought before the Fellows and Members this should be done either by means of a corporate meeting or by a poll of the Fellows and Members, inasmuch as the meetings as hitherto held under the regulations of the Council have no authority to determine any question whatever, and their resolutions on other subjects are almost invariably disregarded by the Council.

He did not wish to discuss now whether women should be admitted or not; he merely wished the Council to make arrangements to determine the opinion of the Members of the College. The by-laws in the Calendar stated that these meetings were merely consultative. On Nov. 14th, 1895, when this question came up before, the Council paid no attention to the resolution carried by the Members.

The PRESIDENT pointed out that the Council had acted on the resolution of the meeting of Members, but

Dr. DICKINSON, continuing, said that it was the veto of the Royal College of Physicians of London which had really prevented the admission of women. These meetings of

Members were not genuine consultations, for the Council paid no heed to the advice of the Members. In medicine or surgery such a "consultation" would be absurd.

Mr. J. BRINDLEY JAMES, in seconding the motion, expressed the opinion that all the Members should be polled on this question.

Mr. EDMUND OWEN regretted that he could not support the motion as it stood, for there was a sting in its tail, but if all the words commencing at "inasmuch" were omitted he would be happy to support it.

With the consent of the meeting this portion of the motion was omitted.

The PRESIDENT, referring to a remark made by one Member that the Council had refused to subscribe to the Defence Committee on behalf of the late Mr. R. B. Anderson, said that though the Council did not consider that the funds of the College should be employed for such a purpose, yet every member of the Council had put his hand into his own pocket and had subscribed.

Mr. F. G. PARSONS suggested that the decision of the Members should be taken at a meeting and not by polling.

Mr. A. DOUGLAS COWBURN seconded this amendment.

Dr. DICKINSON asked whether the decision of such a meeting would be binding on the Council and Mr. JOSEPH SMITH repeated the question.

The PRESIDENT said that the Council would give the utmost weight to the resolutions of such a meeting but the ultimate decision must rest with the Council.

Mr. JOHN SMITH failed to see why these meetings were called corporate meetings if their resolutions were not binding.

Mr. COLLINGWOOD considered polling a much better way of eliciting the opinions of the Members.

Mr. VINRACE suggested that when the polling papers were sent round there should also be sent a paper for taking the opinion of the Members on the question of representation on the Council, it would save double postage.

When put to the meeting the amendment was lost by a large majority.

Mr. A. S. MORTON suggested that the words referring to a corporate meeting in the motion should be omitted.

Surgeon-Major J. INCE seconded this amendment which was carried, and again as a substantive motion in the following words:—

That this meeting recommends that when the question of admitting women to the College examinations is brought before the Fellows and Members this should be done by a poll of the Fellows and Members.

Mr. MORTON then brought forward the following motion:—

That in pursuance of their resolution in July last the Council is hereby requested to make further representations to the Government urging the necessity of amending the Midwives Act next session, in order that provision may be made to secure just remuneration for professional services rendered by medical men under that Act.

He was glad to learn that the Council had already taken action in the matter and he hoped it would not let the subject drop.

The PRESIDENT said that as soon as possible representations would be made to the authorities.

On receiving these assurances from the President the mover, with the permission of the meeting, was allowed to withdraw the motion.

Mr. BROWN then moved—

That in view of the overcrowding and straitened circumstances which exist in the profession, this meeting strongly urges the Council to use all its influence to secure the raising of the standard of the preliminary examinations in general education and in science; and this meeting is further of opinion that the time has arrived when chemistry, physics, and biology should be treated as matters of preliminary education and an examination passed in them before the commencement of medical studies.

He commenced by saying that he was not responsible for the wording of the motion and personally he would prefer to omit the words from "in view" to "profession," as he wished a raising of the standard for a higher reason—the improvement of the medical men of the future. (With the permission of the meeting these words were omitted.) In the General Medical Council he had brought forward a similar motion last year. Young men were not so well educated as they should be. He hoped that the Council would draft a scheme for the institution of a special examination in preliminary science subjects and that students should not be registered as medical students until this examination had been passed.

Mr. GEORGE JACKSON seconded the motion; he considered that in one year a student could acquire a sufficient knowledge of science subjects to be really useful to him in his professional life.

Surgeon-Major INCE looked upon this motion as very important, as he thought that the average medical man was very deficient in natural science.

Mr. OWEN said that biology was an overgrown subject and was a cause of professional ruin to many. The time devoted to it was utterly wasted. He thought that the study was worthless for a medical student.

Mr. COLLINGWOOD considered that the preliminary science subjects were merely mental gymnastics.

Mr. BRINDLEY JAMES regretted the disappearance of the apprenticeship system, for it was of the greatest value in teaching a young man the practical work of his profession.

Mr. BROWN replied. The motion was carried by 12 votes to 2.

Mr. JOSEPH SMITH moved a vote of thanks to the President for presiding; this was carried.

57 Members were present and 23 Fellows, including 14 members of the Council.

THE TRADE IN SECRET AND PROPRIETARY MEDICINES.

(SPECIALLY CONTRIBUTED BY A BARRISTER-AT-LAW.)

II.[1]

LAWS IN FOREIGN COUNTRIES AND BRITISH COLONIES.

IN the previous article reference was made to the laws which affect the sale of secret and proprietary medicines in Great Britain, and it was shown that if a medicine contains no large quantity of alcohol or a scheduled poison or an abortifacient there is no State-imposed restriction whatever on its sale. The State does not forbid the sale of any proprietary medicine in the interests of public health and so long as a proprietor can escape prosecution for obtaining money by false pretences—and it is very rarely indeed that such a charge is brought—he is virtually at liberty to make, in his advertisements to the public, any statement which he thinks may increase his trade. It is proposed now to give a short statement of the laws which some foreign countries have deemed it necessary, or have found it practicable, to make. It may be noted in the first place that whereas many European States have enjoyed protection against secret medicine frauds for a comparatively long time, it is only during the past two or three years that the legislatures of the United States of America and of Australasia have taken definite action.

The United States of America are the home of all that is worst in the proprietary medicine trade. Whereas in Great Britain the sale of proprietary medicines containing a large percentage of alcohol or a scheduled poison may to some small extent be controlled by the Board of Inland Revenue and the Pharmaceutical Society respectively, in most of the States of America preparations strong in alcohol and morphine flourish exceedingly. In many of the States legislation has been introduced with a view to require disclosure of the contents of proprietary medicines, but in almost every case the Bills have met with the most strenuous opposition from the newspaper press, nearly the whole of which is afraid to offend the advertising nostrum manufacturers. It has been stated that in one Western State a Board of Health officer analysed a number of proprietary medicines but could find no newspaper willing to publish the results of his analyses. In Massachusetts, Pennsylvania, Wisconsin, and other States all attempts at legislation have proved unsuccessful, and almost the only successful measure of the kind until the present year was that passed in North Dakota in 1904. It is now the law in that State that all medicines which contain ergot, poisonous narcotics, bromides, or more than 5 per cent. of alcohol shall bear on the labels a statement as to the amount of those drugs present. But in some respects the Governments have powers which are not possessed in Great Britain. For instance, when "liquozone" was publicly exposed in 1905, although no attempt was made by any Government department in Great Britain to take action in the matter, the San Francisco Board of Health, exercising powers vested in it, promptly forbade the sale or distribution of "liquozone" on any terms whatever within the area of the Board's jurisdiction.

A notable step in advance was taken by the United States

[1] Article I. was published in THE LANCET of Nov. 17th, 1906, p. 1380.

Government in June of the present year, when the Pure Food Bill was passed. This measure enacts that it shall be unlawful to make, import, export, or sell any drug or mixture of drugs which is adulterated or misbranded within the meaning of the Act; and a drug or mixture of drugs is deemed to be misbranded—

1. If it be an imitation of or offered for sale under the name of another article.
2. If the contents of the package as originally put up shall have been removed, in whole or in part, and other contents shall have been placed in such package, or if the package fail to bear a statement on the label of the quantity or proportion of any alcohol, morphine, opium, cocaine, heroin, alpha or beta eucaine, chloroform, cannabis indica, chloral hydrate, or acetanilide, or any derivative or preparation of any such substances contained therein.

The penalty for a breach of this provision is a fine not exceeding 500 dollars, or one year's imprisonment, or both fine and imprisonment, still heavier penalties being provided for subsequent convictions of the same offender.

Meanwhile the American Medical Association has not been idle. In compiling the new edition of the "National Formulary," a statute-recognised volume which that association issues, the Publication Committee, while "not inclined to question proprietary rights based upon real discoveries," felt at liberty to publish formulas for well-known medicines and to disregard all claims of proprietorship which were in the nature of attempts to secure private rights in public property, whether by means of trade-marks or in any other way. Further, the American Medical Association has decided to compile an extra pharmacopœia of new and unofficial remedies, containing particulars of unofficial and proprietary preparations which conform with a required standard. No article will be admitted to this book unless the names of all the active ingredients and the strength of each be given for publication; nor will any article advertised to the public for the cure of any disease be considered. New remedies which are not thus barred will be clinically tested, and the publication of the results will doubtless be most useful in affording to physicians a guide to the value of the numerous new chemical compounds to which their attention is so frequently directed.

From the United States we may pass to Cuba. The Cuban Government passed a regulation requiring a disclosure on the labels of proprietary medicines of the ingredients and the proportions of each. The influential and strenuous opposition of the secret-medicine proprietors was successful in getting the regulation modified, so that now the disclosure need only be made to a Government official pledged to secrecy and need not be made on the labels. In the island of Porto Rico, a law passed in 1900 made it mandatory that the formulas of all medicines of a proprietary nature should be filed with the Government before the medicines could be sold. The law had an immediate effect on nostrums imported from the United States and the Porto Rico druggists ceased to sell many American proprietary medicines in which they had formerly dealt.

Among European countries, the laws of Austria are especially worthy of study. In Austria there is no law requiring that the composition of a medicine shall be disclosed on the label but the most stringent precautions are taken to prevent the sale of any harmful proprietary medicine. The qualified pharmacist is the only person who may compound or sell any preparation containing poison, and in all such cases a medical practitioner's signed prescription is necessary. Proprietary medicines may not be placed on the market at all without express permission of the Board of Health which must first have been informed of the exact composition of the article, supplied with samples, and satisfied that the compound is in some way novel or useful, or that it is presented in an improved form. If it contains any drug not officially recognised samples of this drug must also be submitted. The local councils of the districts where a proprietary medicine is to be sold must also be consulted. A medical man may not sell secret medicines, and indeed medical men are absolutely prohibited from dispensing their own prescriptions, except in small country places where there is no pharmacist within a reasonable distance. No recommendation of any proprietary medicine as a cure for any disease is allowed, and all advertisements in the press and elsewhere are under the direct and strict supervision of the police. A maximum retail price is fixed for all proprietary medicines. In fixing this the Board of Health bases its calculations on the wholesale prices of the ingredients and allows nothing for the incidental expenses (such as advertising) which in this country form the greater part of the expenditure of a proprietary medicine manufacturer. Foreign proprietary articles are not allowed by the Customs and postal officers to enter Austria, but if their exact composition be declared to the Board of Health permission to place the article on the market may in certain cases be granted. The law, which has been in force since 1883, is stated to work smoothly and well, with the exception that a certain number of foreign proprietary articles find their way into the country *viâ* Hungary, where the law is not so strictly enforced as in Austria. Towards the end of 1904, however, the Hungarian Minister of the Interior decreed that all "patent" and proprietary remedies sold in Hungary must have their composition stated on the label, the regulation applying both to foreign and to indigenous medicaments.

In August, 1903, the Servian Minister of the Interior ordered that no chemist, druggist, or other dealer in medicines should advertise his wares or their efficacy in any newspaper except trade journals; and in 1905 it was reported that a similar movement had been set on foot by medical practitioners in Vienna who demanded that such advertisements should only be circulated through the medical press.

In France only qualified *pharmaciens* are allowed to make and sell proprietary medicines. Associations which are of the nature of limited companies may not sell them. It is, strictly, against the law to sell any compounded medicine of which the formula has not been published (*a*) in the "Codex"; (*b*) by the Government; or (*c*) in an issue of the *Bulletin de l'Académie de Médecine* since the publication of the latest "Codex," these provisions not applying to medicines ordered in writing by medical practitioners; also, the publication of advertisements for secret medicines is contrary to law. There is, however, very great laxity in enforcing the law and many articles of secret composition are extensively advertised and sold. But the vendor knows all the time that the tolerance of the officials concerned may at any moment give place to severity and to strict enforcement of the law.

In Germany, as in France, the heavy Customs duties imposed on foreign proprietary medicines—£12 10*s.* per cwt. —effectually prevents in the Fatherland any large sale of the nostrums with which Great Britain is deluged. This closing of other European markets naturally has the effect of diverting to the United Kingdom an unduly large proportion of Transatlantic products. But apart from the restrictions placed on importation from abroad, the internal regulations on proprietary medicines within the German Empire are fairly stringent. The regulations in force in the different principalities of the German Empire do not seem to be quite uniform; but generally it may be stated that no compound may be sold which contains any potent or narcotic drug in such proportion as to make the compound injurious to health. In the latter half of 1903, on the initiative of the Federal Council, an attempt was made to arrive at a uniform system of regulations for the advertisement and sale of proprietary articles. Within the space of a few weeks, regulations were adopted in Saxony, Prussia, Hamburg, Schaumburg-Lippe, Hanover, and other parts of the empire, with the object of prohibiting the public advertisement of certain proprietary medicines, which were named on an officially issued schedule. Bottles and receptacles containing these scheduled proprietary medicines must distinctly show the name of the article and that of the maker with his address, as well as that of the firm which sells it and the price. It is prohibited to put on the bottles (or to wrap them in papers setting forth) recommendations, certificates, or any mention of cases in which the article effects a cure or has a preventive effect. Some potent medicines may only be sold on a medical man's prescription, and in such cases the bottle must bear the words "may only be given on prescription." The composition of all scheduled remedies must be known to the druggist who sells them. Towards the end of 1903 the president of the German Pharmaceutical Society arranged with the head of the Berlin Pharmaceutical Institute that analyses of new medicaments and secret remedies should be made at the institute. The arrangement has been duly carried out and the results of the analyses are published periodically in the *Apotheker Zeitung*, the official organ of the society. In some parts of the empire advertisements warning the public against quacks and their works are officially issued as occasion may seem to require.

The effects of the regulations were soon evident. Substitutes, under other names, were put on the market to replace the scheduled articles. A well-known English proprietary medicine was voluntarily withdrawn from the

German market by the proprietors who objected to disclose the formula of their preparation and did not think that much business could be done if its sale were subjected to the restrictions on secret medicines. At the end of 1903 the advertisement managers of two Hamburg journals were each fined £2 10s. or five days' imprisonment for publishing advertisements of Allcock's plasters, the composition of which was not declared. At the time of writing it is understood that the Federal Government is engaged in considering what further regulations of the proprietary medicine trade are necessary and in drafting a Bill.

No good purpose would be served by examining the laws of other European countries in great detail. But it may be mentioned that Italy has very stringent laws on the subject; that the Russian Medical Council has wide powers of prohibition; that in Denmark, by an Act of 1903, the Board of Health was empowered to arrange for the examination of secret remedies; and that in 1904, as a result of the examination of "Dr. Kidd's" medicines and "Dr. Williams' Pink Pills," the Commissioner of Police, at the request of the Danish Board of Health, prohibited advertisements of "Dr. Kidd's" nostrums and "Pink Pills"; also that the King of Norway has power, under a law passed in 1904, to prohibit the sale of specified medicaments of which the composition is kept secret and to prescribe rules to regulate the importation of medicines.

To appreciate fully the difficulties of legislation one must turn to Australia and New Zealand, where the trade has reached enormous proportions. According to a writer in the *World's Work* these countries imported in 1905, chiefly from Great Britain and America, proprietary medicines of the invoice value of nearly £300,000. Many of these compounds seem, according to the same authority, to be of a flagrantly noxious character and to be advertised by grossly fraudulent means. In consequence a special commissioner (Mr. Octavius C. Beale) journeyed to Europe and America a few months ago with authority from the Commonwealth Government to investigate the whole question. Mr. Beale, it is understood, has made strong representations to the British Home Secretary on the urgent need for legislation in Great Britain, but without any evident result.

Meanwhile definite action has been taken both in Australia and New Zealand. In New South Wales a Royal Commission, appointed in 1904 to inquire into infantile mortality, published a report which contained the following paragraph: "Many of these proprietary medicines, obviously dangerous on account of the opium and morphia which they contain, are frequently administered in all innocence by mothers to their children. In a schedule to the report there is a list of 22 much-advertised nostrums upon which the Government analyst has reported. Most of them contain dangerous drugs. They all have fancy names; nearly all of them are dangerous to life unless used under proper advice. They may be classed as secret remedies. Great danger to infant life is caused by the common use of chlorodyne and soothing syrups." Partly as a result of the publicity given to the report in the State of Victoria in 1905 proprietary articles containing scheduled poisons were for the first time brought under the provisions of the Poisons Act. Such articles may now only be sold by medical men and registered chemists and must be labeled with the word "Poison" and the name and address of the seller. A similar law was already in force in some parts of Australasia. Indeed, in 1900 the Pharmaceutical Society of Western Australia published a list of proprietary medicines which required to be labelled with the word "Poison" and treated with the other formalities of the Poisons Act. None of these statutes, however dealt in any way with non-poisonous proprietary medicines. In October, 1905, the President of the Board of Health of South Australia caused to be introduced into the legislature a Bill which would empower the Central Board of Health to recommend the Governor to make by proclamation certain regulations to provide for "the inspection and analysis of foods, chemicals, drugs, and patent and proprietary medicines; regulating and fixing standards of purity; dealing with food preservatives; prohibiting the sale and causing the restriction of drugs and chemicals deemed injurious to health; publishing analyses and the names and addresses of sellers of foods and drugs and the prices at which sold; regulating and fixing the wording on labels on foods and drugs, including patent and proprietary medicines." This Bill did not pass but a somewhat similar provision, contained in the Pure Food Bill, was adopted by the legislature of Victoria in 1905. Armed with the authority so conferred the Board of Health in Victoria framed the following regulations, which have received the necessary approval of the Foods Standards Committee and will come into force on Jan. 1st, 1907.

(1) No compounded drug of which the average dose is more than one teaspoonful (60 minims) for adults, or is more than one-half of one teaspoonful for children under five years of age, unless such compounded drug is a preparation set out in the British Pharmacopœia, or is sold specifically as an alcoholic compound, shall contain more than 10 per cent. by volume of ethyl alcohol.

(2) No drug or compounded drug other than any sold specifically as one of, or as containing one or more of, the substances set out herein, or any of their derivatives, shall contain opium, or belladonna, stramonium, nux vomica, cannabis indica, cocaine, heroin, or any derivative of any of these drugs, or chloral hydrate, bromides, sulphonal, trional, veronal, paraldehyde, or any other synthetic hypnotic substances, or phenazonum, phenacetinum, or acetanilidum, or any other allied substance.

Similar regulations have been made by the Federal Minister for Customs under the powers vested in him by the Customs Acts and by regulations made under the Commerce (Trade Description) Act, in June, 1906, the Federal Government of Australasia requires imported proprietary medicines which contain narcotics, abortifacients, or more than 10 per cent. of alcohol to bear on the labels an exact description of their contents. The Government also has power to demand the disclosure of trade secrets and to confiscate articles which do not comply with the conditions laid down; and the Postmaster-General may refuse to transmit letters sent in connexion with a fraudulent business. By the still more drastic resolutions, passed on August 2nd, 1906, the House of Representatives has declared:—

(1) That in the opinion of this House, in the interest of the health of the community of Australia, it is desirable that all patent or proprietary medicines, all infantile and artificial foods, all medical and surgical appliances which purport to cure or alleviate any disease to which the human frame is subject, should be critically examined on entry into the Commonwealth—(*a*) to ascertain their contents and composition; (*b*) to ascertain their value from a curative standpoint; (*c*) to ascertain their value as a food; (*d*) to ascertain their value as remedial agents.

(2) That it is further desirable that the exact pharmaceutical composition or construction should be set out clearly on the label or package of each bottle, tin, box, or parcel, and a clear definition be given of the ailment they profess to cure or alleviate.

(3) That in the event of the description on the bottle, tin, box, package, or parcel being false or misleading to the purchaser, then all such articles shall be refused admission into the Commonwealth, and all such as have been landed and not cleared shall be forfeited and destroyed.

Most remarkable of all, perhaps, are the experiences of New Zealand. Nearly three years ago the Minister of Public Health gazetted a regulation requiring 160 specified nostrums to bear on the label a full disclosure of their constituents, with the quantities of each. Medical men and pharmacists of the colony approved generally of the regulation, but the influential opposition of the secret medicine proprietors was so great and so skilfully directed that in 1905 the regulation was watered down in such a way as to obviate the public disclosure of the precious secrets of the nostrum manufacturers. The regulation thus altered was to the effect that: "No person shall sell or offer for sale, or cause to be sold or offered for sale, within the colony any patent medicine unless and until a full statement, verified by statutory declaration, has been deposited with the Minister of Public Health at Wellington showing the several ingredients contained in or used in the manufacture of such patent medicines, and the quantity or proportion of such ingredients in each, together with a copy or copies of the label or labels affixed to the bottle, box, or other vessel or covering containing or used for the putting-up of such patent medicines." Even this was objected to almost as strongly by the secret medicine manufacturers, who enlisted on their side many distributing business firms in the colony and, of course, the greater part of the newspaper press. English and American manufacturers worked upon the feelings of merchants and tradesmen by threatening to cease to export their proprietary articles and other merchandise to the colony, and they told the newspaper proprietors plainly that all contracts for advertisements would be cancelled if the regulations stood unaltered. Meetings of protest were held and it was publicly announced that "the business in proprietary medicines would be ruined by the publication of the formulæ." In the result a further concession was made to the effect that the composition of proprietary medicines need only be disclosed confidentially to the Minister of Public Health when such disclosure should be specially demanded. Thus whittled down, the regulations clearly cannot do much to protect the public. Since the above was written the writer has learnt that another Bill has quite recently been read a second time in the New Zealand Parliament, with the

approval of the Government and of a large majority of the legislature. It contains the following provisions:—

It shall not be lawful for any person to sell any medicament other than those prescribed and supplied by a duly qualified registered medical practitioner or a registered chemist without first obtaining the consent and certificate of the chief health officer, and each and every package, bottle, or other parcel or thing containing such medicament, after being duly authorised, shall bear upon it, whenever and wherever sold, vended, or supplied, a facsimile of the certificate issued by the Health Office, and such certificate shall bear upon its face the facsimile of the signature of the chief health officer.

Every registered chemist within the colony may at any time make application for authorisation of any medicament and deposit therewith the formula and such sample of the said medicament as the chief health officer may deem necessary, and the chief health officer shall, on being satisfied of the useful curative or other beneficial qualities of such medicament, forthwith issue an authorisation and certificate to the registered chemist aforesaid.

Any unregistered practitioner within the colony of New Zealand may make application to the Health Office for the right to advertise any medicament or treatment for any disease or complaint, and the chief health officer may, if reasonably satisfied of the efficacy of such treatment or medicament and of the *bona fides* of such unregistered practitioner, issue to any such person a certificate authorising such advertisement, treatment, or use.

Other clauses provide that any person who publishes any advertisement or other notification relating to any quack nostrum, and any unregistered practitioner who publishes any advertisement or notification offering advice to sufferers or patients or to cure disease or complaints either with or without fee, and the publishers and proprietors of such publication in which such advertisement or notification appears shall be guilty of an offence under the Act. Similarly, proprietors or publishers of newspapers, books, magazines, &c., whether within or without the colony, are prohibited from publishing advertisements relating to alleged free packets of jewellery or other like "gifts" in return for the sale of "scented packets, medical remedies, or unauthorised medicaments." For a first breach of the provisions a fine not exceeding £5 is stipulated, for a second one month's imprisonment may be inflicted, and for any subsequent offence not less than six nor more than 12 months. It remains to be seen whether the opposition of the newspapers to this Bill will be as strenuous as was the case in regard to the former regulations.

The laws of other countries do not call for special comment, but it is interesting and not surprising to find that in Japan the seller of secret medicines is required to send in a detailed account of the use, dose, and contents of each proprietary medicine which he sells, and for each brand of proprietary medicine sold an additional annual tax has to be paid. The medicines may not contain any poisons. The permission may be withdrawn if the maker should alter the composition or if it is proved that the contents are injurious to health. Altering the composition is punished with confiscation and a fine of from 20 to 50 yen, forging the permission from 50 to 100 yen, and the secret adding of poisons means a fine of from 100 to 500 yen. The informer gets half the fine.

MEDICINE AND THE LAW.

Identification by Finger-prints.

WITH regard to the classification and identification of criminals by means of finger-prints it was suggested in THE LANCET of Nov. 10th, p. 1301, that "if upon the uncorroborated evidence of such impressions the question of a prisoner's guilt is to depend, the testimony should come from an expert whose early training has been that of a medical man and not from a police officer," and as a reason for this it was added that "apart from the very important matter of scientific training, it is desirable that there should be no possible suggestion of professional bias." Two cases which have occurred since the one upon which these observations were founded do not indeed relate to the evidence of a detective inspector upon finger-prints, but have some bearing upon the errors into which professional bias, coupled with inaccurate and untrained observation, may lead police officers where it is a question of identifying and convicting an accused person. In one of these a woman who gave evidence at a police court denied in cross-examination that she had been convicted herself of an offence. This denial formed the subject of a prosecution for perjury against her. Her name was Elizabeth Perkins (we will call her No. 2). A woman named Elizabeth Perkins (whom we will call No. 1) had, in fact, been convicted of the offence which she had denied and two police constables who had had Elizabeth Perkins No. 1 in custody, two officers attached to the police court, and the matron of the court were ready to go into the witness-box and to swear that Elizabeth Perkins No. 1 and Elizabeth Perkins No. 2 were one and the same person. Upon the prisoner obstinately protesting her innocence the higher police authorities quite fairly, but in accordance with their plain duty, made further inquiries and found that Elizabeth Perkins No. 2 had obtained Poor-law relief at Bermondsey and had visited the workhouse there on a date when Elizabeth Perkins No. 1 was in prison, and the charge of perjury was, of course, withdrawn. It may be pointed out that had the finger impressions of the imprisoned woman been taken and compared with those of the woman afterwards arrested for perjury the error should not have gone so far, but apparently this was not done, and it may equally be suggested that the errors made by subordinate police officials in the matter of the identification of general physical characteristics must to some extent have been due to what has already been called professional bias, and that if evidence of finger impressions had been available it might have been subject to the same subtle influence. It is a question of bias of which the witness may be quite unconscious and of the avoidance of any possible suggestion that he is prejudiced. In another recent case of police "identification" a costermonger named Jones should have received two summonses for street obstruction. One was served upon him and the other upon a friend and fellow costermonger called Dennis. Dennis arrived at the Guildhall police court hoping to explain that he was not Jones and was promptly tried and fined for both Jones's offences, eventually going to prison because he could not pay. Jones arrived later in the day with the summons rightly served upon him in his pocket, and the police would not listen to him when he protested that a man had been wrongly sentenced in his place. The two men together have since laid their case before the Alderman and have been referred to the Home Office. If stories of this sort come within a measurable distance of being true they show that the assistance of finger-prints in making identification certain should be invoked whenever this is possible, but they are far from showing that identification by finger-prints should be intrusted to those who have received their training in the ranks of the police force.

VITAL STATISTICS.

HEALTH OF ENGLISH TOWNS.

IN 76 of the largest English towns 8295 births and 4667 deaths were registered during the week ending Nov. 17th. The annual rate of mortality in these towns, which had not exceeded 14·6 and 14·9 per 1000 in the two preceding weeks, further rose last week to 15·4. During the first seven weeks of the current quarter the death-rate in these towns averaged 15·2 per 1000; the rate during the same period in London did not exceed 14·4. The lowest death-rates in the 76 towns during the week under notice were 4·2 in Hornsey, 4·3 in King's Norton, 6·4 in East Ham, and 6·9 in Burton-on-Trent; the rates in the other towns ranged upwards to 22·8 in Burnley, 23·9 in Rotherham, 24·3 in South Shields, and 25·8 in Yarmouth. The 4667 deaths in the 76 towns showed a further increase of 134 upon the low numbers returned in recent weeks, and included 408 which were referred to the principal epidemic diseases, against numbers steadily declining from 2570 to 441 in the ten preceding weeks; of these, 113 resulted from measles, 97 from diarrhœa, 81 from diphtheria, 44 from "fever" (principally enteric), 37 from whooping-cough, 34 from scarlet fever, and two from small-pox. The deaths from these epidemic diseases were equal to a mean annual rate of 1·3 per 1000 in the 76 towns, and did not exceed 0·9 in London. No death from any of these epidemic diseases was recorded last week in Willesden, East Ham, Southampton, Northampton, or in nine other of the 76 towns; the annual death-rates therefrom, however, ranged upwards to 4·1 in Oldham, 4·3 in Swansea, 5·6 in South Shields, and 6·0 in Rotherham. The 113 fatal cases of measles showed a further increase upon recent weekly numbers and showed the largest proportional excess in Wigan, Stockport, Oldham, South Shields, and Rotherham. The 97 deaths referred to diarrhœa showed a further marked decline but were equal to a rate

of 2·2 in Swansea. The deaths from diphtheria further rose to 31, a higher number than in any week since February last; this disease caused the highest rates in Walthamstow and Derby. Scarlet fever showed the greatest fatality in Merthyr Tydfil and whooping-cough in Newport. Both the fatal cases of small-pox (the first recorded in the 76 towns since September last) occurred in Hull. No case of small-pox was under treatment in the Metropolitan Asylum Hospitals during the week, no case of this disease having been admitted thereto since the end of June. The number of scarlet fever cases under treatment in the Metropolitan Asylum Hospitals and in the London Fever Hospital, which had been 4177 and 4135 in the two preceding weeks, rose again to 4150 at the end of the week under notice; 462 new cases were admitted to these hospitals during the week, against 592, 499, and 417 in the three preceding weeks. The deaths in London referred to pneumonia and other diseases of the respiratory organs, which had been 150, 200, and 231 in the three previous weeks, further rose last week to 288, but were 77 below the corrected average in the corresponding week of the four preceding years, 1902–05. The causes of 47, or 1·0 per cent., of the deaths registered during the week were not certified either by a registered medical practitioner or by a coroner. All the causes of death were duly certified in Leeds, Bristol, West Ham, Newcastle-on-Tyne, and in 50 other of the 76 towns; the proportion of uncertified deaths again showed a considerable excess in Liverpoool, Birmingham, Bootle, Sunderland, and Gateshead.

HEALTH OF SCOTCH TOWNS.

The annual rate of mortality in eight of the principal Scotch towns, which had been equal to 16·0 and 17·0 per 1000 in the two preceding weeks, was again 17·0 in the week ending Nov. 17th, and exceeded by 1·6 the mean rate during the same week in the 76 English towns. The rates in the eight Scotch towns ranged from 15·2 and 15·3 in Leith and Edinburgh to 19·3 in Dundee and 27·2 in Perth. The 582 deaths in the eight towns exceeded the number in the previous week by one, and included 70 which were referred to the principal epidemic diseases, exceeding the number in the previous week by 22. These 70 deaths were equal to an annual rate of 2·0 per 1000, and exceeded by 0·7 the rate from the same diseases in the 76 English towns. they included 24 which were referred to diarrhœa, 13 to whooping-cough, 11 to "fever," ten to measles, eight to diphtheria, four to scarlet fever, and not one to small-pox. The deaths referred to diarrhœa, which had declined from 56 to 16 in the five preceding weeks, rose again last week to 24, and included 14 in Glasgow and three both in Edinburgh and Aberdeen. Of the 13 fatal cases of whooping-cough ten occurred in Glasgow, as did all the 11 deaths referred to "fever," of which ten were certified as cerebro-spinal meningitis. The ten deaths from measles included eight in Aberdeen; and of the eight fatal cases of diphtheria three were returned in Edinburgh and two in Glasgow. The deaths in the eight towns referred to diseases of the respiratory organs, including pneumonia, which had been 94 and 100 in the two preceding weeks, further rose last week to 123, but were four below the number returned in the corresponding week of last year. The causes of 28, or 4·8 per cent., of the deaths registered during the week were not certified; the mean proportion of uncertified deaths in the 76 English towns during the same week did not exceed 1·0 per 1000.

HEALTH OF DUBLIN.

The annual death-rate in Dublin, which had been equal to 27·4 and 24·9 per 1000 in the two preceding weeks, rose again to 25·6 in the week ending Nov 17th. During the first seven weeks of the current quarter the death-rate in the city averaged 24·4 per 1000, the mean rate during the same period being only 14·4 in London and 15·0 in Edinburgh. The 186 deaths of Dublin residents during the week under notice showed an increase of five upon the number returned in the previous week, and included 14 which were referred to the principal epidemic diseases, against numbers declining from 52 to 12 in the ten preceding weeks; these 14 deaths were equal to an annual rate of 1·9 per 1000, against 0·9 and 1·1 respectively from the same diseases in London and Edinburgh. These 14 deaths in Dublin last week included nine from measles, three from diarrhœa, one each from "fever" and whooping-cough, and not one either from scarlet fever, diphtheria, or small-pox. The nine fatal cases of measles showed a further increase upon recent weekly numbers, and exceeded the number in any previous week of this year; and the three deaths from diarrhœa exceeded by one those returned in the previous week. Eight inquest cases and nine deaths from violence were registered; and 76, or 40·9 per cent., of the deaths occurred in public institutions. The causes of three, or 1·6 per cent., of the deaths registered during the week were not certified; the percentage of uncertified causes of death last week did not exceed 0·4 in London while it was 5·0 in Edinburgh.

VITAL STATISTICS OF LONDON DURING OCTOBER, 1906.

IN the accompanying table will be found summarised complete statistics relating to sickness and mortality in the City of London and in each of the metropolitan boroughs. With regard to the notified cases of infectious diseases it appears that the number of persons reported to be suffering from one or other of the nine diseases specified in the table was equal to an annual rate of 11·1 per 1000 of the population, estimated at 4,721,217 persons in the middle of the year. In the three preceding months the rates had been 7·7, 6·8, and 9·0 per 1000 respectively. The lowest rates last month were recorded in the City of London and in the boroughs of Kensington, St. Pancras, Poplar, and Lewisham; and the highest rates in Shoreditch, Southwark, Bermondsey, Battersea, Deptford, and Greenwich. The prevalence of scarlet fever last month showed a decided increase over that recorded in any other month of the present year; among the various metropolitan boroughs this disease was proportionally most prevalent in Shoreditch, Southwark, Bermondsey, Battersea, Deptford, and Greenwich. The Metropolitan Asylums hospitals contained 4111 scarlet fever patients at the end of last month, against 2998, 3012, and 3360 at the end of the three preceding months; the weekly admissions averaged 543, against 395, 338, and 461 in the three preceding months. Diphtheria also was considerably more prevalent during October than it had been in any other recent month; this disease showed the greatest proportional prevalence in Hammersmith, Fulham, Southwark, Wandsworth, Deptford, Greenwich, and Woolwich. The number of diphtheria patients under treatment in the Metropolitan Asylums hospitals, which had been 878, 834, and 844 at the end of the three preceding months, had further risen to 1062 at the end of last month; the weekly admissions averaged 175, against 135, 111, and 130 in the three preceding months. A slight increase in the prevalence of enteric fever was recorded last month; among the various metropolitan boroughs this disease was proportionally most prevalent in Paddington, Hackney, Bethnal Green, Stepney, Poplar, and Greenwich. There were 200 enteric fever patients under treatment in the Metropolitan Asylums hospitals at the end of last month, against 99, 103, and 139 at the end of the three preceding months; the weekly admissions averaged 34, against 15, 16, and 28 in the three preceding months. Erysipelas was proportionally most prevalent in Stoke Newington, Hackney, Finsbury, Bethnal Green, Stepney, Southwark, and Bermondsey. The 44 cases of puerperal fever notified during the month included five in Wandsworth, four each in Hackney, Southwark, and Lambeth, and three each in St. Pancras and Camberwell.

The mortality statistics in the table relate to the deaths of persons actually belonging to the various boroughs, the deaths occurring in public institutions having been distributed among the boroughs in which the deceased persons had previously resided. During the five weeks ending Nov. 3rd the deaths of 6153 persons belonging to London were registered, equal to an annual rate of 13·6 per 1000; in the three preceding months the rates had been 11·3, 15·8, and 17·1 per 1000 respectively. The death-rates last month ranged from 7·8 in Hampstead, 9·8 in Stoke Newington and in Wandsworth, 11·0 in the City of Westminster, 11·2 in Chelsea, and 11·8 in Paddington, to 16·1 in the City of London, 16·6 in Stepney, 16·7 in Shoreditch, 17·9 in Bethnal Green, 18·1 in Poplar, and 18·8 in Finsbury. The 6153 deaths from all causes in London last month included 664 which were referred to the principal infectious diseases; of these, 37 resulted from measles, 66 from scarlet fever, 75 from diphtheria, 44 from whooping-cough. 47 from enteric fever, one from ill-defined pyrexia, and 394 from diarrhœa. Among the metropolitan boroughs

ANALYSIS OF SICKNESS AND MORTALITY STATISTICS IN LONDON DURING OCTOBER, 1906.

(Specially compiled for THE LANCET.)

CITIES AND BOROUGHS.	Estimated population in the middle of 1906.	NOTIFIED CASES OF INFECTIOUS DISEASE.											DEATHS FROM PRINCIPAL INFECTIOUS DISEASES.												
		Small-pox.	Scarlet fever.	Diphtheria.*	Typhus fever.	Enteric fever.	Other continued fevers.	Puerperal fever.	Erysipelas.	Cholera.	Total.	Annual rate per 1000 persons living.	Small-pox.	Measles.	Scarlet fever.	Diphtheria.*	Whooping-cough.	Typhus fever.	Enteric fever.	Other continued fevers.	Diarrhœa.	Total.	Annual rate per 1000 persons living.	Deaths from all causes.	Death-rate per 1000 living.	Deaths of infants under one year to 1000 births.
LONDON	4,721,217	—	2963	1042	1	281	3	44	614	—	5069	11·1	—	37	66	75	44	—	47	1	394	664	1·5	6153	13·6	117
West Districts.																										
Paddington	148,913	—	81	19	—	14	—	1	21	—	136	9·5	—	—	1	2	—	—	1	—	8	12	0·8	168	11·8	103
Kensington	180,962	—	89	18	—	7	—	1	15	—	130	7·5	—	—	1	1	—	—	—	—	11	13	0·7	223	12·9	110
Hammersmith	120,679	—	39	56	—	7	—	—	15	—	117	10·1	—	—	1	5	—	—	1	—	7	14	1·2	152	13·1	81
Fulham	161,965	—	109	63	—	9	—	1	15	—	197	12·7	—	—	3	8	4	—	1	—	25	41	2·6	228	14·7	146
Chelsea	74,672	—	42	15	—	—	—	1	6	—	64	8·9	—	—	1	—	2	—	—	—	4	7	1·0	80	11·2	162
City of Westminster	173,905	—	84	33	—	4	1	2	21	—	145	8·7	—	—	3	2	—	—	—	—	5	10	0·6	183	11·0	81
North Districts.																										
St. Marylebone	128,580	—	65	19	—	6	—	2	22	—	114	9·2	—	—	5	1	—	—	1	—	8	15	1·2	172	13·9	73
Hampstead	89,633	—	45	17	—	2	1	1	8	—	74	8·6	—	—	—	—	—	—	1	—	1	2	0·2	67	7·8	63
St. Pancras	236,455	—	89	35	—	14	—	3	32	—	173	7·6	—	—	5	3	3	—	1	1	14	27	1·2	336	14·8	109
Islington	344,987	—	234	50	—	21	—	2	45	—	352	10·6	—	2	4	1	1	—	5	—	20	33	1·0	438	13·2	115
Stoke Newington	53,217	—	30	4	—	2	—	—	16	—	52	10·2	—	—	—	1	—	—	—	—	1	2	0·4	50	9·8	64
Hackney	230,721	—	158	60	—	25	—	4	46	—	293	13·2	—	2	5	1	—	—	6	—	26	40	1·8	274	12·4	118
Central Districts.																										
Holborn	55,805	—	20	16	—	2	—	—	7	—	45	8·4	—	—	—	1	—	—	—	—	8	9	1·7	81	15·1	85
Finsbury	97,466	—	73	26	—	5	—	—	22	—	126	13·5	—	—	4	2	3	—	3	—	19	31	3·3	176	18·8	116
City of London	21,367	—	11	4	—	—	—	—	1	—	16	7·8	—	—	1	—	—	—	1	—	—	2	1·0	33	16·1	40
East Districts.																										
Shoreditch	116,108	—	104	21	—	5	—	1	23	—	154	13·8	—	—	2	1	4	—	1	—	15	23	2·1	186	16·7	152
Bethnal Green	130,609	—	82	22	—	13	—	2	34	—	153	12·2	—	4	2	1	4	—	4	—	17	32	2·6	224	17·9	155
Stepney	307,176	—	150	69	—	30	—	—	66	—	315	10·7	—	15	2	9	5	—	5	—	47	83	2·8	488	16·6	128
Poplar	170,673	—	65	22	—	19	—	2	22	—	130	7·9	—	7	2	2	—	—	2	—	27	40	2·4	297	18·1	146
South Districts.																										
Southwark	209,143	—	270	66	—	14	—	4	45	—	399	19·9	—	1	4	5	2	—	1	—	19	32	1·6	315	15·7	127
Bermondsey	128,629	—	145	33	1	7	—	—	31	—	217	17·6	—	2	2	4	3	—	1	—	9	21	1·7	192	15·6	123
Lambeth	315,774	—	200	39	—	11	1	4	34	—	289	9·5	—	—	3	4	4	—	2	—	21	34	1·1	368	12·2	119
Battersea	179,622	—	179	43	—	7	—	—	17	—	246	14·3	—	—	5	2	1	—	1	—	11	20	1·2	222	12·9	146
Wandsworth	273,381	—	127	84	—	13	—	5	28	—	257	9·8	—	1	2	5	3	—	1	—	11	23	0·9	256	9·8	85
Camberwell	274,132	—	158	42	—	6	—	3	36	—	245	9·3	—	—	5	5	1	—	—	—	16	27	1·0	325	12·4	105
Deptford	115,495	—	108	61	—	9	—	1	14	—	193	17·4	—	—	2	3	—	—	—	—	10	15	1·4	143	12·9	151
Greenwich	105,360	—	85	40	—	13	—	2	12	—	152	15·0	—	1	—	3	—	—	3	—	7	14	1·4	134	13·3	121
Lewisham	148,463	—	67	27	—	5	—	—	12	—	111	7·8	—	1	1	1	3	—	2	—	15	23	1·6	177	12·4	102
Woolwich	127,345	—	53	38	—	9	—	2	8	—	110	9·0	—	1	—	2	1	—	3	—	12	19	1·6	165	13·5	129
Port of London	—	—	1	—	—	3	—	—	—	—	4	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

* Including membranous croup.

these diseases caused the lowest death-rates in Paddington, Kensington, the City of Westminster, Hampstead, Stoke Newington, and Wandsworth: and the highest rates in Fulham, Finsbury, Shoreditch, Bethnal Green, Stepney, and Poplar. The 37 deaths from measles were only one-third of the average number in the corresponding periods of the four preceding years; this disease was proportionally most fatal in Bethnal Green, Stepney, Poplar, and Bermondsey. The 66 fatal cases of scarlet fever were 15 in excess of the corrected average; among the various metropolitan boroughs this disease was proportionally most fatal in St. Marylebone, St. Pancras, Hackney, Finsbury, and Battersea. The 75 deaths from diphtheria were slightly fewer than the corrected average number; the greatest proportional mortality from this disease was recorded in Hampstead, Fulham, Stepney, Bermondsey, Deptford, and Greenwich. The 44 fatal cases of whooping-cough were 25 below the corrected average number; the highest death-rates from this disease last month were recorded in Fulham, Chelsea, St. Pancras, Finsbury, Shoreditch, and Bethnal Green. The 48 deaths referred to "fever" showed a considerable decline from the average number in the corresponding periods of the four preceding years; "fever" was proportionally most fatal last month in Hackney, Finsbury, Bethnal Green, Greenwich, and Woolwich. The 394 fatal cases of diarrhœa were 82 in excess of the average; the greatest proportional mortality from this disease was recorded in Fulham, Holborn, Finsbury, Shoreditch, Bethnal Green, Stepney, and Poplar. In conclusion, it may be stated that the aggregate mortality from these principal infectious diseases in London last month was almost identical with the average.

Infant mortality, measured by the proportion of deaths among children under one year of age to registered births, was equal to 117 per 1000. The lowest rates of infant mortality were recorded in Hammersmith, the City of Westminster, St. Marylebone, Hampstead, Stoke Newington, and the City of London; and the highest rates in Fulham, Chelsea, Shoreditch, Bethnal Green, Poplar, Battersea, and Deptford.

THE SERVICES.

ROYAL NAVY MEDICAL SERVICE.

IN accordance with the provisions of Her late Majesty's Order in Council of April 1st, 1881, Fleet Surgeon John Davey Henwood has been placed on the Retired List, with permission to assume the rank of Deputy Inspector-General of Hospitals and Fleets (dated Nov. 17th, 1906).

The following appointments are notified:—Staff Surgeons: P. W. MacVean to the *Topaze* and W. H. Daw to the *Vindictive*. Surgeon: T. B. Shaw to the *Wildfire*.

The undermentioned Surgeons have been promoted to the rank of Staff Surgeon in His Majesty's Fleet: John Boyan, William Henry Daw, Cyril Shepherd, Hugh Leigh Norris, Adrien Andrew Forrester, John Stoddart, Warren Guy Westcott, Francis John Louis Philip McKenna, Fairman Rackham Mann, Edward Charles Sawdy, Percy Hooper Bannister, Richard Sidney Osborne, Edward Oliver Bamford Carbery, John Kimber Raymond, and Henry Rule Gardner (dated Nov. 8th, 1906).

ROYAL ARMY MEDICAL CORPS.

Colonel H. R. Whitehead is confirmed as Principal Medical Officer, 2nd (Rawal Pindi) Division, with effect from Sept. 18th, 1906. Colonel P. M. Ellis, on arrival from England, to be Principal Medical Officer, 4th (Quetta) Division. Colonel J. G. Harwood has been appointed Principal Medical Officer, Presidency and Assam Brigades. Lieutenant-Colonel T. P. Woodhouse has been appointed to officiate as Principal Medical Officer, 3rd (Lahore) Division, vice Colonel H. J. W. Barrow, proceeding on six months, leave out of India on private affairs. Lieutenant-Colonel H. A. Haines has been appointed to the officiating command of the station hospital, Ambala, vice Lieutenant-Colonel T. P. Woodhouse. Captain D. O. Hyde has been appointed to the command of the station hospital, Khandalla. Lieutenant A. W. Gater has been appointed to the command of the station hospital, Attock.

The following officers on arrival in India for duty in the Northern Command have been posted to Lahore Cantonment:—Major G. St. C. Thom and Captain R. L. Argles.

Major H. S. Thurston has joined the London District for duty. Captain J. F. Martin has been posted to the Poona Division, on transfer from the Northern Command, India.

The following transfers have been ordered: Captain M. C. Beatty, from the Mhow to the Poona Division; Captain A. J. Williamson, from the Quetta Division to the Aden Brigade; Lieutenant S. C. Bowle, from the Mhow to the Poona Division; and Lieutenant P. Dwyer, from the Poona to the Mhow Division.

ROYAL ARMY MEDICAL CORPS SCHOOL OF INSTRUCTION.

Lieutenant-Colonel Charles E. Nichol, D.S.O., to be Commandant and Officer Commanding Depôt, Royal Army Medical Corps, vice T. J. R. Lucas, C.B., who has vacated the appointment (dated Nov. 5th, 1906).

INDIAN MEDICAL SERVICE.

The King has approved of the following promotions among officers of the Indian Medical Service made by the Government of India:—Captains to be Majors: Vivian Boase Bennett (dated Jan. 29th, 1906); Thomas Arthur Granger, Harold John Kinnahan Bamfield, John Wemyss Grant, Arthur Henry Moorhead, William Davey Hayward, William Elmsley Scott-Moncrieff, and Charles Ross Pearce (dated July 28th, 1906). Lieutenants to be Captains: Robert Kelsall, John A. Burgess, Charles Hildred Brodribb, John McCallum Anderson Macmillan, Clifford Allchin Gill, William Edward James Tuohy, Terence Francis Owens, Richard Francis Steel, George Francis Innes Harkness, Arthur Charles Ingram, Gordon William Maconachie, Ernest William Charles Bradfield, Alexander William Montgomery Harvey, Charles Isherwood Brierley, John Brown Dalzell Hunter, and Edward Temple Harris (dated July 28th, 1906).

The King has also approved of the retirement of the following officers: Lieutenant-Colonel William Arthur Mawson (dated July 14th, 1906); Lieutenant-Colonel Henry Walker Butler Boyd (dated June 30th, 1906); and Lieutenant-Colonel Robert Cobb (dated Oct. 10th, 1906).

VOLUNTEER CORPS.

Rifle: 1st Volunteer Battalion the East Yorkshire Regiment: Supernumerary Surgeon-Lieutenant A. T. Sissons to be Surgeon-Captain, remaining Supernumerary (dated Oct. 4th, 1906). 3rd Volunteer Battalion the South Wales Borderers: Edward Meredith Griffith (late Captain) to be Surgeon-Lieutenant (dated Nov. 1st, 1906). 3rd Volunteer Battalion the South Staffordshire Regiment: Surgeon-Captain (Honorary Captain in the Army) C. A. MacMunn (Brigade-Surgeon-Lieutenant-Colonel, Senior Medical Officer, Staffordshire Volunteer Infantry Brigade), to be Surgeon-Major (dated May 28th, 1902). 4th Volunteer Battalion the Essex Regiment: Surgeon-Captain H. T. Challis is borne as Supernumerary whilst holding the appointment of Brigade-Surgeon-Lieutenant-Colonel, Senior Medical Officer, Essex Volunteer Infantry Brigade (dated Oct. 20th, 1906). 4th (Nottinghamshire) Volunteer Battalion the Sherwood Foresters (Nottinghamshire and Derbyshire Regiment): The undermentioned Surgeon-Lieutenants to be Surgeon-Captains: F. W. Johnson (dated August 4th, 1906); A. J. H. Montague (dated Sept. 7th, 1906). 1st (City of Bristol) Volunteer Battalion the Gloucestershire Regiment: Surgeon-Major A. W. Prichard is borne as Supernumerary whilst holding the appointment of Brigade-Surgeon-Lieutenant-Colonel, Senior Medical Officer, Portland Volunteer Infantry Brigade (dated June 1st, 1906). 1st Volunteer Battalion the King's Own (Yorkshire Light Infantry): Surgeon-Lieutenant G. S. Mill to be Surgeon-Captain (dated Sept. 7th, 1906).

ROYAL ARMY MEDICAL CORPS (VOLUNTEERS).

Bedford Bearer Company: Captain E. F. Bindloss is borne as Supernumerary whilst holding the appointment of Brigade-Surgeon-Lieutenant-Colonel, Senior Medical Officer, Bedford Volunteer Infantry Brigade (dated Oct. 20th, 1906).

DEATHS IN THE SERVICES.

Deputy Surgeon-General Sampson Roch, A.M.D. (retired), on Nov. 9th, at his residence, Woodbine Hill, county Waterford. He entered the service in 1854 as assistant surgeon, became surgeon in 1867, surgeon-major in 1873, brigade-surgeon in 1879, and retired in 1881 with the rank of honorary deputy surgeon-general. He served in the Crimean campaign from February, 1855, including the siege and fall of Sebastopol and attack of June 18th. He also served with the French as a volunteer at the storming of the Mamelon on June 7th (medal with clasp and Turkish medal).

Deputy Surgeon-General Julius Wiles, A.M.D. (retired),

on Nov. 10th, aged 78 years. He joined the army in 1854, became surgeon in 1871, surgeon-major in 1873, brigade-surgeon in 1881, and retired in 1883 with the rank of honorary deputy surgeon-general. He served in the Crimean campaign from Nov. 26th, 1854, including the siege and fall of Sebastopol and attacks of June 18th and Sept. 8th (medal with clasp and Turkish medal). In the Indian Mutiny campaign he served from August, 1858, and was present with the force under Colonel Turner in the Behar district. He also served in the campaign of 1860 in China and was present at the actions of Sinhu and Taku and surrender of Peking (medal with two clasps). He embarked for the Gold Coast with the 2nd Battalion Rifle Brigade and served throughout the second phase of the Ashanti war in 1874, including the battle of Amoaful, battle of Ordahsu, and capture of Kumasi (medal and clasp).

THE ROYAL NAVY LIST.

The Royal Navy List has long been noted for its accuracy and convenience of reference but the current quarterly issue, No. 116, possesses a feature which adds much to its usefulness as a work which has to be consulted constantly by all whose daily calling brings them in any way into touch with the Royal Navy. It will be remembered that the war and meritorious services of officers were chronicled under subheadings with an index number attached to each name. Under the present arrangement the "services" of officers are found under their names arranged alphabetically in a portion of the "List" which can be instantly referred to by lifting a linen tag conspicuously marked "War services marked alphabetically." Much praise is due to the compilers of this "List" for thus lightening the labours of those who have constantly to refer to it. The present issue, in addition to the usual encyclopædic information relative to officers and ships, contains a special article on the Balance of Sea Power, elucidated with tables and diagrams. This will be read with great interest at a time when naval matters are so much to the front. The article on the Current History of the Royal Navy still remains a prominent feature of this work of reference, as does also the "Chronological List of Notable Naval Events from the earliest times to 1878," and the list of events from that year to the present time. Every endeavour seems to have been made to anticipate the needs of anyone consulting the book and at the same time to make reference to it easy. The publishers are Messrs. Witherby and Co., 326, High Holborn, and 4, Newman's-court, Cornhill, London, E.C., and the price is 10*s*.

THE NEW WAR OFFICE.

It is well worthy of being put on record that when the newly erected, large, and imposing building in Whitehall is taken into occupation and becomes the seat of government for the British army, which will be the case on Jan. 1st next, an undertaking of quite a new and very comprehensive character will have been accomplished. Never in its history has the army been administered from under a single roof. Its numerous branches and departments have hitherto been scattered over various buildings and, notwithstanding that increasing efforts at consolidation were made as time went on, this is the first occasion on which all the numerous branches of the War Office—military, medical, and civil—have been properly correlated and grouped together in the same building. That it is from all points of view a most necessary change no one doubts, but whether it will lead any nearer to that promised increase of army efficiency is another matter about which we can only hopefully wait.

PRESERVED MEAT IN THE ARMY.

The following order relating to the Southern Command has been published: "When boards of officers are assembled to report upon preserved meat considered unfit for issue and tins are found to be defective, the boards should invariably record in the proceedings whether the defect has been caused by nail pricks, defective soldering, or through rust, or whether the tins are blown through, the contents having become decomposed, the number of each variety of defect being recorded. This information is necessary in order to establish responsibility for the loss. Whenever packers' notes are found in cases in which are damaged tins they should always accompany the proceedings, the damages being recorded on the backs. The notes should be initialled by a president or a member."

AN INSPECTOR OF MEDICAL SERVICES.

The *Broad Arrow* of Nov. 17th announces that it is stated that the Army Council has under consideration the establishment of an Inspector of Medical Services, with functions similar to those exercised in their respective branches of the service by the Inspector of Cavalry and the Inspector of Artillery. At present there is no provision for any effective inspection of the various medical units, hospitals, &c., since the Director-General of the Army Medical Service has his time taken up with the administrative details of his department. It is now proposed that an inspector should be appointed and should form part of the department of the Inspector-General to the Forces, while it is also suggested that a similar official should be appointed to carry out the inspection of the Army Service Corps.

Correspondence.

"Audi alteram partem."

THE PROPOSED UNION OF MEDICAL SOCIETIES OF LONDON.

To the Editors of THE LANCET.

SIRS,—As there appears to be some misunderstanding with regard to the present position of the above movement I should be glad if you would kindly permit me to draw the attention of the societies concerned to the following facts. After a thorough investigation the amalgamation of the societies was considered feasible, and a committee (called the organising committee) was appointed by representatives of the various societies to draw up a definite scheme of union on lines likely to be approved by the majority of societies. The report of this committee was adopted by the representatives of societies on July 17th, 1906, and was distributed. Each society was asked to inform the honorary secretaries (Dr. Arthur Latham and Mr. H. S. Pendlebury), on or before Dec. 7th prox., whether it approved the scheme as drawn up or not. In the event of a society approving the scheme—i.e., deciding to join the union—it was requested to nominate a representative to serve on the first council of the new society. As soon as the decision of the societies concerned is known a meeting of this council will be called and the necessary business of initiating the new society will be carried out with every despatch. It is hardly necessary to point out that the refusal of one or more societies to join does not in the least affect the movement.

I am, Sirs, yours faithfully,

Harley-street, W., Nov. 19th, 1906. W. S. CHURCH.

MORAU AND JENSEN'S TUMOUR.

To the Editors of THE LANCET.

SIRS,—In the letter from Mr. W. Roger Williams under this heading which appeared in THE LANCET of Nov. 17th, p. 1400, the writer remarks:—

> The just claims of Morau as the discoverer of this malady have been so generally overlooked in this country and in Germany that the malady he discovered and experimentally investigated is now commonly known as "Jensen's tumour," and this kind of misconception has lately received its apotheosis at the *hands* of the Council of the Royal College of Surgeons, who have just awarded the Walker prize to Jensen as its discoverer.

Those who know as I do with what care and indefatigable labour Mr. Roger Williams has worked at and written on the subject of cancer will, I think, be surprised at the confusion and the inaccuracy in the above statement. The confusion is in the reference to the award of the Walker prize. One of the conditions of this prize is that it must be awarded for *work done, either partially or wholly, within the five years ending on the* 31st of December prior to the date of award. As Morau's work was done between December, 1888, and the end of 1893, and his results were published to the world in 1894, it is obvious that he was not eligible for the prize. The inaccuracy lies in the statement that Morau's work and claims have been overlooked in this country.

In my Bradshaw lecture delivered in December, 1903, I referred to Morau's work in three different places, in one of which I stated "some experiments by Morau are of great importance, because they were the first which were made in a systematic manner to show the transmissibility of a

malignant new growth from one animal to another of the same species. Quite recently Jensen and Borrel have had successful series of inoculations and graftings also in white mice." And then I give the references to the papers of each of these investigators, as will be seen by looking at THE LANCET of Dec. 12th, 1903, p. 1635. Further, it is within my personal knowledge that Morau's work has been referred to on several occasions in the deliberations of the Executive Committee of the Imperial Cancer Research; and lastly, I have before me as I write a long and full address entitled, "L'État Actuel de la Question du Cancer" by the director of the Imperial Cancer Research (Dr. E. F. Bashford) in the *Revue Scientifique* of June 2nd, 1906, in which there is a distinct reference to Morau "as the first who succeeded in transplanting cancer from mice to other mice." Morau was unfortunate in that his carefully and scientifically conducted researches through 15 series of transplantations in mice, as well as his experiments with other animals and his lucid and interesting report of them, came at a time before the establishment of cancer research laboratories, and in that except for any bearing they were supposed to have in relation to the bacterial origin of cancer they fell flat. Jensen, on the other hand, was fortunate in that his work came just at the time when systematic research into cancer was being established in this country and a little later in Germany. The original mouse tumour from which he transplanted the disease into other mice may be said to be still living, in thousands of mice, in most places where cancer research is being followed within both hemispheres of the globe. The great importance of Jensen's work consists in the fact that he did not restrict himself to reproducing the same form of cancer in mice by transplanting portions of the tumour from the mouse originally affected, but he proved at enormous labour and pains, by following the processes going on step by step at the site of inoculation, that the new formation was actually a continuation of growth of the cells introduced by inoculation. I am, Sirs, yours faithfully,

Nov. 20th, 1906. HENRY MORRIS.

To the Editors of THE LANCET.

SIRS,—I shall be obliged if you will allow me to give a short summary of the work of Morau. It was in 1891 that Morau[1] first announced his discovery of this malady, more than ten years before any publication of Jensen's on this subject had appeared. Morau's original tumour developed spontaneously in the subcutaneous tissue of the axilla of a captive white mouse. It was easily enucleable, non-adherent to contiguous structures, and caused no disturbance to the animal's general health. A portion of this tumour, immediately after its aseptic ablation, was by trituration reduced to a magma which was forthwith injected into the subcutaneous tissue of a series of other white mice. About three months later it was found that nearly all the injected animals presented similar tumours at the seats of inoculation and elsewhere, which subsequently slowly increased in size. One of these tumours was then enucleated, and from it fresh magma was prepared, with which another series of mice was injected, and these also after a similar interval acquired the disease. Experiments of this kind were successfully continued through several generations. It is noticeable that the animals employed for these experiments were all of the same strain, closely interrelated, and had all been kept in the same cage. This no doubt explains the very large proportion of successful implantations attained by Morau—over 80 per cent.—which is much in excess of that of any other experimenter: for when animals of foreign strains are used the proportion of successful implantations is far less.

In subsequent experiments Morau found that when the malady had been artificially transmitted through a considerable number of generations the inoculability of the pseudoplasm markedly diminished. In another series of experiments mice were fed with a paste composed of chopped-up tumour and bread crumbs, with the result that these also after some time developed the disease. Morau seldom noticed dissemination of the malady, except after traumatism applied to the tumour. The absence of cachexia also attracted his attention: "J'ai l'honneur de présenter un animal dont l'état général est assez satisfaisant, malgré l'énorme développement de la tumeur dont il est porteur" (p. 721). Pregnancy was found to check the progress of the malady, but post partum its increase was greatly accelerated. Morau's view as to the nature of this pseudoplasm is shown by the title of his publication, wherein he speaks of it as "an epithelial tumour" ("*Inoculation en série d'une tumeur épithéliale de la souris blanche*"); but in a subsequent passage he claims that it may be classed "dans la catégorie des épithéliomas cylindriques." All attempts to transplant the malady into other animals than mice failed. Moreover, no cultures could be obtained from any of the many tumours examined, nor could any microbes be discriminated.

Some recent observations by Borrel[2] seem to show that the tumours are formed round certain parasitic helminths which end their existence thus after having lived for a time in the animal's blood; and in this connexion it is interesting to note that the same observer has often found the blood of these tumours teeming with parasitic spirochætæ. It would be premature to speculate as to the precise value of these significant finds, but they seem to point to a distinct causative agent. We are evidently only just at the beginning of the investigation as to the real nature of this malady.

I am, Sirs, yours faithfully,

Clifton, Bristol, Nov. 17th, 1906. W. ROGER WILLIAMS.

[1] Comptes Rendus de la Société de Biologie de Paris, 1891, tome iii., pp. 289, 721, and 801, &c.

[2] Infection Verminеuse et Spirochetæ chez les Souris Cancéreuses, Comptes Rendus de la Société de Biologie, Paris, tome lviii., p. 770.

THE "SACCULAR THEORY" OF HERNIA.

To the Editors of THE LANCET.

SIRS,—Dr. A. Keith in his criticism of Mr. R. Hamilton Russell's theory brings forward observations on some 70 fœtuses in which he has failed to find any sign of a peritoneal diverticulum in the femoral canal such as the theory postulates. The point is, of course, a crucial one, and if Dr. Keith's observations are confirmed it must be admitted that Mr. Russell's theory, at any rate as regards femoral hernia, will be definitely disproved. But a much larger number of observations will be required before the question can be settled. 70 is a very small number of cases when we consider the comparative rarity of femoral hernia. In 350 consecutive operations of my own on inguinal and femoral herniæ the latter do not exceed 5 or 6 per cent. of the total number. I do not know the frequency of femoral hernia with relation to population, but 1 in 5000 probably overstates it. In these circumstances the absence of a congenital femoral sac in 70 cases proves little, even if we ignore the possibility of a sac having been overlooked in a single instance, as might readily happen if the observations were not made for that special purpose but only incidentally. With regard to inguinal hernia, Mr. Russell's theory stands on much stronger ground and Dr. Keith's remarks leave it quite untouched. The frequent presence of a congenital inguinal sac in persons of all ages who have never had a hernia, which was shown many years ago in the case of infants, has now been demonstrated by Mr. R. W. Murray[3] in adults of all ages. The pre-formed sac is not, therefore, a theoretical postulate but a matter of direct observation.

Dr. Keith's remarks about the weakness of the internal abdominal ring and the pressure to which it is subjected are quite beside the mark. The really interesting question is—Why does not everyone acquire a hernia at some time of life? Weak spots in the abdominal wall and intra-abdominal strain occur in everyone. Yet herniæ do not always, or even generally, occur in those whose abdominal walls are weak or in those specially exposed to strain. On the contrary, it occurs as often as not in the most unlikely persons and is equally often absent when all the supposed predisposing causes operate most strongly. The theory of "weak spots" and "strain" affords no clue to this apparently capricious occurrence of hernia. It does not account for the fact that a hernia usually appears for the first time *tout d'un coup* and not slowly and gradually. Nor does it explain why inguinal and femoral herniæ have pear-shaped sacs with narrow necks, whereas all herniæ which are indisputably due to "rupture" or strain show no such peculiarity. The saccular theory not only explains these facts perfectly but can be tested by another criterion—that of treatment. Dr. Keith says truly, if Mr. Russell's theory is right, then we must modify profoundly our conception of the cause of hernia and the principles which we

[3] THE LANCET, Feb. 10th, 1906, p. 363.

apply to its cure. I am convinced that Mr. Russell is right and for the last six years I have carried his hypothesis to its logical conclusion by making perfect obliteration of the sac the central aim of the radical cure and by relegating the closure of the inguinal canal to a secondary place or disregarding it altogether. I have published elsewhere[4] the results of 142 consecutive operations for hernia at all ages, based on this principle, and the results as regards the number and permanence of the cures compare favourably with any similar series yet published. I have now for a considerable time discarded all methods of closing the inguinal canal as unnecessary, even in large herniæ, and content myself with thorough displacement and removal of the sac by Kocher's method. I find the results excellent. I propose at some future time to publish a consecutive series which will, I believe, show conclusively that the sac is the *fons et origo* of the hernia, since if that is efficiently removed the hernia does not return though strain and a weak inguinal region continue to exist as before.

I am, Sirs, yours faithfully,

Wolverhampton, Nov. 17th, 1906. EDWARD DEANESLY.

To the Editors of THE LANCET.

SIRS,—It is not greatly to the credit of the medical profession that there should still be considerable difference of opinion as to the essential cause of such a common complaint as hernia. There are at present two distinct schools of thought on this question. The disciples of the smaller and more modern school hold to the saccular theory as *the* article of their faith, and thus explain the occurrence of hernia at all periods of life as being essentially due to the presence of a pre-formed hernia sac, whereas the disciples of the larger and more orthodox school believe that all herniæ occurring during infancy and childhood have a saccular origin, but when a hernia appears for the first time during adult life the hernia sac, with very few exceptions, has been acquired.

The saccular theory which during the last few years has been advanced by Mr. R. Hamilton Russell, chiefly from a clinical point of view, is, in your issue of Nov. 17th, subjected to severe adverse criticism by Dr. A. Keith. The question is considered by Dr. Keith from the standpoint of the embryologist and the anatomist, and as such is entitled to the greatest respect. In his letter Dr. Keith is chiefly concerned in refuting the explanation given by Mr. Russell as to the developmental origin of the sac of a femoral hernia, but also deals with inguinal hernia, and in the course of his remarks says, "It is scarcely conceivable that a 'saccular theory' of hernia could be formulated by anyone familiar with the anatomy of the groin." On the contrary, I am surprised that persons familiar with the anatomy of the groin have not long ago formulated a saccular theory of inguinal hernia. It has long been recognised that the frequent occurrence of inguinal hernia during infancy is due to the presence of a pre-formed sac—a defective obliteration of the processus vaginalis testis. It is also known that during adult life a *scrotal* hernia may suddenly develop owing to the bowel descending for the first time into a patent peritoneal diverticulum. In such circumstances strangulation of the bowel frequently occurs and at the operation for its relief the sac is usually found to be distinct from the tunica vaginalis. Inguinal hernia not infrequently appears for the first time during convalescence from a long illness, and in such circumstances it is surely far more probable that a pre-formed sac existed rather than that the bowel, apart from any violent muscular effort, forced the peritoneum in front of it.

I have operated for the radical cure of inguinal hernia upon a number of infants, older children, and adults, and have been greatly impressed with the marked similarity of the sac and its surroundings at all periods of life, and have yet to learn how to distinguish between the so-called acquired and the pre-formed sac. Again, the fact that during infancy and early childhood radical cure of an inguinal hernia can with something approaching certainty be obtained by simply excising the sac after applying a ligature to the neck of it is strong evidence in favour of the saccular theory so far as the inguinal region is concerned.

Dr. Keith does not spare Mr. Russell respecting the "facts" concerning development which he has discovered and which he subjects to a close examination. However, I hold no brief for Mr. Russell, who will no doubt look after himself. At the same time when a person asks for facts, he himself should exercise great caution as to the statements he makes, and I trust I have adduced some evidence to show that Dr. Keith is not entirely correct when he says: "All the evidence at our disposal points to the coincident formation or pre-formation of a peritoneal sac as the least essential point in the pathology of hernia."

After all said and done what occasion is there to suppose that the sac of an inguinal hernia in the adult is ever acquired, when we know that during intra-uterine life a peritoneal diverticulum normally exists in this region and from clinical and post-mortem experience that this diverticulum—a pre-formed hernia sac—frequently persists throughout life. I will not now discuss the question further as I hope soon to publish a paper dealing with the etiology and treatment of inguinal hernia based on a second series of 100 post-mortem examinations made at the Mill Road Infirmary upon persons in whom during life there was no evidence of hernia and also upon the results obtained by a method of treatment based upon the saccular theory of inguinal hernia. I am, Sirs, yours faithfully,

Liverpool, Nov. 18th, 1906. R. W. MURRAY.

[4] Brit. Med. Jour., June, 1905.

THE SOILING OF THE LOAF.

To the Editors of THE LANCET.

SIRS,—Dr. Sandwith says in connexion with the above, "It seems quite possible that public opinion has never been directed to this evil since Englishmen began to consider the question of domestic health." He will be glad to learn I have been advocating a "clean bread delivery" for nearly ten years, both in the medical and lay press. My last communication to the former was about two years ago in THE LANCET, when I advocated that loaves should be delivered in oil papered bags and not opened until they reached the breakfast-table. I am, Sirs, yours faithfully,

Manchester-square, W., Nov. 18th, 1906. THOMAS DUTTON.

To the Editors of THE LANCET.

SIRS,—A year or more ago you kindly published a protest of mine against the insanitary treatment of bread during its journey from the oven to the consumer. I told you I was in the habit of taking a walk before breakfast and daily passed two well-known bakers' shops and saw most mornings loaves in trays placed on the pavement with dogs prowling round. I saw the much over-loaded hand-carts with baskets full of bread on the handles bumping in the mud. Sometimes I saw loaves tumbling off into the road replaced almost unwiped. I then made inquiries about the bread-supply at this club and ever since the committee has wisely insisted every loaf and roll shall be sent separately in a paper bag—a precaution which should be observed by everyone responsible. I am, Sirs, yours faithfully,

REGINALD BARRATT.

Arts Club, Dover-street, W., Nov. 18th, 1906.

THE BOARD OF EDUCATION AND THE TEACHING OF HYGIENE.

To the Editors of THE LANCET.

SIRS,—In a special article in THE LANCET of Nov. 17th, on page 1393, you notice the reception by the President of the Board of Education of the deputation which waited on him at the office of the Board on Nov. 12th. You state that the object of the deputation was "..... to consider a memorandum ..... presented by the committee of the medical profession ..... by the British Medical Association, and by the Advisory Board for the Teaching of Hygiene and Temperance."

As one of those who on that occasion represented the International Association for the Prevention of Tuberculosis, I should feel obliged to you, Sirs, if you would kindly publish in THE LANCET the inclosed copy of a letter sent by my colleagues and myself to Mr. Birrell on Nov 9th. In that letter is stated what we asked the Board of Education to do, and you will observe that our objects were not identical with those of the other members of the deputation. We had

expected to meet Mr. Birrell without reporters being present, but at his suggestion we joined the other deputations.

I am, Sirs, yours faithfully,

Harley-street, W., Nov. 20th, 1906. G. A. HERON.

[INCLOSURE.]

To the Right Honble. Augustine Birrell, M.P., K.C., President of the Board of Education.

SIR,—We, the undersigned, desire to press upon the attention of the Board of Education the following considerations:—

It is, in our opinion, of great importance to the public interest that those who intend to devote themselves to the teaching of the young in our public elementary schools should be required by the State to give due attention to the study of elementary hygiene. Were this done a knowledge of the laws of health would in course of time become part of the professional equipment of all school-teachers, with the result that they would know, better than they do now, how to safeguard the children entrusted to them from the grave dangers of preventible disease.

Moreover, school-teachers who had thus themselves acquired a sound knowledge of elementary hygiene, would be able, given suitable opportunities, to impart some of this knowledge to their older scholars. In particular, the scholars would learn the fact that many disorders, with whose names and dangers their home-life has made them familiar, are in their nature preventible and by simple means can be prevented. Children so trained would, on reaching maturer years, be more intelligently alive to questions concerning the preservation of health than is now the case with the majority of our people. We believe it is within the power of the Board of Education to further these ends by suitable changes in the regulations for the training of elementary teachers, such as the following:—

1. That elementary hygiene should be made a compulsory subject of study in training colleges.

2. That before receiving a certificate of proficiency every teacher should be required to show a sufficient knowledge of the laws of health, and in particular of those relating to the prevention of infectious disorders.

3. That whenever possible, the instruction in elementary hygiene given in training colleges should be entrusted to specially qualified medical practitioners.

We are, Sir, your obedt. servants,

T. CLIFFORD ALLBUTT, M.D., F.R.S., Regius Professor of Medicine, University of Cambridge.

G. L. BRUCE, Late School Board for London, and London Committee of Education.

G. A. HERON, M.D., F.R.C.P., Representing the International Association for the Prevention of Tuberculosis.

DONALD MACALISTER, M.D., F.R.C.P., President of the General Medical Council.

WILLIAM OSLER, M.D., F.R.S., Professor of Medicine, University of Oxford.

JOHN TWEEDY, F.R.C.S., Late President of the Royal College of Surgeons of England.

THE ADMISSION OF WOMEN TO THE DIPLOMAS OF THE ROYAL COLLEGE OF SURGEONS OF ENGLAND.

To the Editors of THE LANCET.

SIRS,—At the recent meeting of Fellows and Members of the College of Surgeons the question of the admission of women to the Membership was brought up and a motion was proposed that before the Council did anything definite it should consult the Fellows and Members of the College either by calling a statutory meeting to discuss the question or by a poll of the whole College. I proposed as an amendment that the opinion of the College should be taken at a statutory meeting and not by a poll, but the amendment was lost and subsequently another amendment asking the Council to take a poll of the whole College was passed. The difference between the two courses is very great because, if a meeting were called, the voters would have an opportunity of hearing the arguments for and against the step, while if a poll is taken a large proportion of Members will vote without giving the subject the fair consideration which it deserves and will be influenced by the fear that they will suffer from female competition. In my opinion this fear is groundless because most medical women take the London M.B. or M.D. degree at present and find no difficulty in doing so, but if the Membership of the College were open to them there is no doubt that many who now take the M.B. and, eventually, M.D. Lond. would content themselves with the M.R.C.S., L.R.C.P. and it is easier to compete with the holder of a diploma than with the holder of a degree. Unless the medical press will allow us to thresh out the subject in its columns I do not see how we now can learn what are the real objections to women Members of the College nor can we point out to our brother Members the necessity for the College to move with other scientific and learned bodies if it is to maintain the position it at present holds in the country. I regret extremely that the meeting of Fellows and Members should have practically rejected the appeal for a free discussion of both sides of the question and should have added point to its rejection by passing an amendment that only a poll should be taken. If the meeting really represented the ideals of the College at large it makes one doubtful whether the Members are competent to rule in a broad-minded way, but I cannot help thinking that the great mass of Members would be prepared to judge the case on its merits and hear both sides if it were possible to appeal to them. I for one should be pleased to learn what are the real objections to the admission of women Members.

I am, Sirs, yours faithfully,

F. G. PARSONS, Lecturer on Anatomy, London School of Medicine for Women.

Nov. 19th, 1906.

SUNSHINE AT SANDOWN, ISLE OF WIGHT.

To the Editors of THE LANCET.

SIRS,—Knowing your desire for accuracy and your reputation for the same, I am taking the liberty of drawing your attention to an inaccuracy in THE LANCET of Nov. 10th, 1906. The inaccuracy is in your article on "September and October Sunshine." I do not know who is your authority for the amount of sunshine during those months at Shanklin, but it cannot be the Royal Meteorological Society. The facts of the case are thus. Shanklin does not possess a sunshine recorder, they practically guess at its amount per day, aided I suppose by their watches, and I do not think it quite fair to other places that a paper with the reputation of THE LANCET should accept such data as these. Sandown, which is only two miles from Shanklin, is rather more than less exposed to the sun than Shanklin, possesses a Campbell Stokes recorder, the records of which are recognised and published by the Royal Meteorological Society. The Sandown record for September was 205·6 hours, for October 123·1 hours, whilst according to the Shanklin record the amount of sunshine for September was 233 hours, and for October 125 hours. Sandown has gone to a considerable amount of trouble and expense in fitting up a meteorological station and it seems to me only fair that its records should be noticed before those of a place which practically guesses at its records. Apologising for troubling you at such length,

I am, Sirs, yours faithfully,

G. BENINGTON WOOD, M.B. Edin., Member of the Sandown Meteorological Board.

Newlands, Sandown, I.W., Nov. 19th, 1906.

THE PATHOLOGY OF SCIATICA.

To the Editors of THE LANCET.

SIRS,—During the last 15 years, in the course of my practice as a physician at a balneary resort, I have examined over 2500 cases of so-called sciatica, and as I have been accustomed to inquire carefully into the past history of the patients I beg your permission to make some remarks suggested by the letter of Dr. William Bruce on the above matter in THE LANCET of Nov. 3rd, p. 1239, with which I cannot agree.

In cases resembling sciatica it is the first duty of the medical man to examine the hip joint, keeping in mind the differential diagnosis between sciatica and diseases of that joint. It is not surprising that Dr. Bruce has found a case where the examination of the medical man who saw the patient before him was perhaps superficial. I see similar cases several times a year and this blunder, like other errors of diagnosis, is to be regretted but cannot be always avoided. But it is quite a different thing if Dr. Bruce maintains that every single case of sciatica is due to trouble in the hip-joint. It must be conceded that true sciatica, as clinically defined, has nothing to do with the hip and that the diagnosis of sciatica is not justified unless anamnesis and symptoms prove it directly. It has often been asserted of recent years that sciatica is a collective name for manifold painful affections of the legs, but I consider this to be an error. Usually I examine my patients very diligently and may say that in most cases the hip-joint is not affected at all. I must concede that absolutely uncomplicated cases are in the minority and that in a number of instances patients who according to superficial diagnosis were said to suffer from sciatica, were in reality

suffering from arthritis, periarthritis of the hip, or diseases of either the muscles, or the tendons, or the bones, or the bursæ mucosæ of the region of the hip, and so on. Such cases I do not acknowledge as sciatica, but this is not the place to describe the symptomatology of true sciatica. Careful consideration of the anamnesis and the most important signs will easily prevent mistakes.

As to Dr. Bruce's assertion that the usefulness of his patient's leg might have been preserved, but that he was lamed for life in consequence of a faulty diagnosis, I must hesitate to accept it. In his opinion the patient suffered from double rheumatoid arthritis of the hip-joint and subsequent ankylosis, the symptoms of which were strongly suggestive of malum coxæ senile. If the patient was really suffering from rheumatoid arthritis of the hip—always a very severe and obstinate illness—I cannot understand how Dr. Bruce goes so far as to affirm that massage would have stopped its progress. When hot baths and other measures have proved insufficient massage is of very doubtful effect. According to my experience ankylosing disease of the hip is almost incurable and hopeless. Massage is the last treatment that I could consider as a panacea, as I have seen much trouble from it in cases of chronic inflammations of joints. As to the remarks regarding the analogy with neuritis brachialis and affections of the shoulder, I believe that a medical man who, in case of complaints in the arm, does not examine the mobility of the shoulder in the most simple and usual way described by Dr. Bruce cannot be regarded as a competent practitioner.

I am, Sirs, yours faithfully,

DR. BÉLA BOSÁNYI,
Royal Councillor, Chief Physician of
Budapest, Nov. 6th, 1906. Sct. Lukasbad, Budapest.

FATALITIES UNDER ETHYL CHLORIDE.

To the Editors of THE LANCET.

SIRS,—In an article with this title published in THE LANCET on May 5th last, p. 1233, I endeavoured to make a rough estimate of the number of times which the drug had been employed for general anæsthesia during the past three years in this country and arrived at the figure of 450,000. Information which has recently come to hand shows that I was very much within the mark. I am told by the London agent of Messrs. Duncan and Flockhart that during this period they have sold sufficient ethyl chloride for 1,500,000 administrations at five cubic centimetres each. If to these be added the cases for which ethyl chloride is manufactured by other firms, such as Hedley, Bengue, Kuhn, and the Kelene Company, the number of narcoses cannot be put as much under 3,000,000. Up to date 20 deaths are reported in Great Britain—giving a mortality of 1 in 150,000. With these figures before us I am at a loss to understand how certain anæsthetists of repute steadfastly refuse to employ ethyl chloride alone or in combination.

As an offset to the 20 fatalities I am confident that it has saved many lives, or prevented fatalities which would have occurred had chloroform been substituted for it.

I am, Sirs, yours faithfully,

Edinburgh, Nov. 19th, 1906. T. D. LUKE.

THE TAXATION OF MOTOR-CARS USED BY MEDICAL MEN.

To the Editors of THE LANCET.

SIRS,—Letters that have appeared in your columns show that physicians in England who use motor-cars realise the necessity of protesting against the taxation of these carriages at the same rate as the "pleasure vehicles of the rich." It is even claimed that medical men should be altogether exempt from such taxation and various suggestions have been made to remedy the matter by writing to Members of Parliament, appealing to the public, &c. It may, perhaps, strengthen the hands of those seeking this very just reform to know that in France it has been recognised that the physician's car is used for professional purposes and the authorities consequently subject it to only *half the tax* usually levied.

When a physician registers his car he is asked if he uses it in his practice and a reply in the affirmative suffices to obtain the 50 per cent. reduction. This, after all, is only fair. The scale of taxation, also, seems to me more reasonable. An automobile is charged five francs per horse-power, plus 50 francs if for one or two persons; 90 francs if for more than two persons. This is the Paris scale but it diminishes considerably in smaller towns. Thus, in a town of from 20,000 to 40,000 inhabitants, a car for two people pays 30 francs per annum; one with more than two places, 60 francs per annum, plus, of course, the five francs per horse-power.

I am, Sirs, yours faithfully,

Paris, Nov. 18th, 1906. A. A. WARDEN.

NOVOCAINE IN MINOR SURGERY.

To the Editors of THE LANCET.

SIRS,—Seeing your annotation in THE LANCET of Oct. 27th, p. 1160, on novocaine, and having come across little information from users of the drug in this country, it struck me that perhaps it might be of interest to your readers if one gave one's experience in a few slight cases such as one mostly meets with in general practice, ignoring the major operations, though from what I have seen of it it should be a valuable aid in them in cases where a general anæsthetic is inconvenient or dangerous or the patient fears it.

In eye work where mydriasis or paralysis of accommodation is undesirable it is of great value—e.g., removal of foreign bodies, some of the operations for glaucoma, and analogous cases.

In a nasty case of a piece of steel imbedded in the hand one had no difficulty in removing it after localisation with x rays, giving the great advantage that the patient, a business man, was able to proceed with his day's work, which, of course, he would not have been able to do if a general anæsthetic had been used. In stitching wounds about the face, the scalp, or elsewhere I have also found a local anæsthetic of very great value, especially in children and ladies, in enabling one to do one's work accurately without discomfort to the patient. I have for years used cocaine for this purpose, but with this drug one always has some fear of its toxicity and in the circumstances in which my work has had to be done I have not had opportunity of trying stovaine, though eucaine is successful though not free from danger, and in a fresh open wound one wants a drug that one can use with more or less freedom.

Novocaine I have found to be equally useful in dental work, first (in nervous patients) packing the gum with cotton-wool soaked in a 5 per cent. solution and then injecting the gum with 2 per cent. in combination with adrenalin, rendering the operation in most cases quite, and in all nearly, painless, and in addition giving the great advantage of marked diminution of hæmorrhage so valuable in all operating work. Writing of the use of adrenalin the two bodies in combination appear to me to reinforce one another. In those small but exceedingly painful operations about the anus for hæmorrhoids I find that it is also almost an ideal drug to use. So far, though used freely, I have had no after effects whatever referable to the drug and this fact in combination with its utility has led me to look upon it as an almost indispensable item in my armamentarium.

I am, Sirs, yours faithfully,

J. SHEPLEY PART, M.D.

Bath-road, Bedford-park, W., Oct. 31st, 1906.

THE CASE OF MR. PEERS: A MISCARRIAGE OF JUSTICE.

To the Editors of THE LANCET.

SIRS,—I desire to say that the London and Counties Medical Protection Society has paid Mr. Peers's *own* costs in the case upon which you have commented sympathetically in your medico-legal notes.[1] The amount it is desired to raise is to be used to pay the damages given against Mr. Peers and the costs of the other side.

I am, Sirs, yours faithfully,

278, Old Kent-road, London, Nov. 20th, 1906. C. H. PRING.

*** In the paragraph referred to by Mr. Pring we stated that the defendant's cause was undertaken throughout by the London and Counties Medical Protection Society, Limited. We are now informed that the society not only defrayed the

[1] THE LANCET, Nov. 10th, p. 1301.

costs of Mr. Peers's defence but is showing its hearty commendation of the appeal to the medical profession by voting £10 10*s.* towards the fund being raised, this being a very exceptional course.—ED.L.

A PLEA FOR THE NEXT GENERATION.

To the Editors of THE LANCET.

SIRS,—May I be allowed to bring before your readers a point which I have reason to believe is sometimes lost sight of in dealing with infants and nursing mothers. I refer to the readiness that is too often displayed, frequently on the most trivial pretexts, to advise the early weaning of the infant. I do not, of course, refer to those cases where it is advised on account of certain conditions in either, which are to be attributed directly to suckling, although even in these cases no trouble should be considered to be too great in order to avoid this contingency, and wherever possible a consultation should be invited; but one frequently comes across cases in which as a mere matter of convenience or in order to fit in with some entirely non-essential arrangement, or for the better performance of some trifling operation, such as curetting, which could, although with the greater difficulty, be performed at home, the weaning of the child is recommended. In such cases the mother recovers her health only to find perhaps in a year's time that instead of a healthy baby she possesses a bandy-legged peevish caricature of a baby who requires much treatment to restore to health and upon whom she has all unwittingly inflicted a mortal injury. If every mother were an expert on infant feeding, or even if they availed themselves of expert knowledge, the injury would be only one of a less degree; but when one sees the sorry substitutes to which the relations have recourse, usually a patent food or tinned milk, one is forced to the conclusion that a grave wrong is being done to the future generation through the question not having been regarded from the point of view of the child as well as from that of the immediate benefit of the mother.

I am, Sirs, yours faithfully,

London, W., Nov. 17th, 1906. M.D.

BIRMINGHAM.

(FROM OUR OWN CORRESPONDENT.)

Coventry's Water-supply.

COVENTRY has for some time seen that there would be urgent need for an increased water-supply in the near future and negotiations have been proceeding with Birmingham to furnish the supply required. Luckily, Birmingham has stand-by resources obtained from the river Bourne, which are estimated as capable of yielding 12,500,000 gallons a day of water suitable for domestic and other purposes and likely to remain suitable whilst proper supervision of its sources is maintained. It has therefore been found quite possible to arrange to supply to Coventry the maximum 2,000,000 gallons a day which that town requires. Coventry will lay down its own mains to convey the water and Birmingham undertakes to supply the water for 40 years, or for such a period as Coventry may obtain for the repayment of the loan to provide the main. The agreement has now been confirmed on both sides and it contains wise clauses regarding its termination in certain circumstances, and suggestions are made for the provision of a supply of Welsh water on different terms should the Bourne river supply prove at any time unsuitable.

The Coventry Hospital Saturday Fund.

It is pleasant to be able to record this year, as last, a steady increase in this fund. The cheque handed over this year was for the sum of £2800, that amount being £1145 greater than the sum collected two years ago and £700 more than was collected last year.

A Vaccination Difficulty.

A defendant who was summoned at the Solihull police court last week for not having had his three children vaccinated put forward what appears to be a new plea for delay. He urged that he had not disregarded the notices served upon him and he declared that he was willing to have his children vaccinated as soon as he could obtain cow-pox lymph. He said that he understood, from answers given in Parliament, that the lymph supplied by the Local Government Board was taken from calves inoculated with lymph taken from cows which had themselves been inoculated with small-pox virus, and he objected to such lymph being used for his children. He stated that he had applied to the President of the Local Government Board for information as to where he could get cow-pox lymph and had been referred to the Board of Agriculture and Fisheries, but he had not obtained the lymph which he desired. The case was adjourned on a technical point and has yet to be decided upon.

The Health of Warwickshire.

Dr. A. Bostock Hill's seventh annual report contains a number of interesting facts concerning the population and the health of the county of Warwick. It is estimated that during the year ending at midsummer, 1905, the population increased by 7500, the total being 377,543. The birth-rate, calculated on the estimated population, was 25·58 per 1000, a decrease of 1·38 per 1000 as contrasted with the preceding year. The decline affects both rural and urban districts but is greater in the latter than in the former. The death-rate during the same period was 12·87, which is the lowest recorded since the establishment of the county council. The zymotic death-rate was 0·90 per 1000 and in this association the county may look with pleasure upon the decrease of typhoid fever, which must be ascribed, in part at least, to the improved drainage and sewerage and the better water-supply.

The Health of the City.

The most notable feature in the recent weekly report is the steady increase of the number of diphtheria patients in hospital. The number has been gradually rising since September and has now reached 90. This is considerably in excess of the number usual at this time of the year, but fortunately the cases are mild and but few deaths have occurred. With this exception the general health is good, though the death-rate has risen during the past week from 13·8 to 16·4 per 1000.

Nov. 20th.

MANCHESTER.

(FROM OUR OWN CORRESPONDENT.)

Workmen's Convalescent Homes.

AT the recent annual meeting of the Manchester Hospital Saturday and Sunday Fund it was decided to hold a conference between the representatives of the two sections of the fund, the several participating medical charities, and the committee of the bazaar formed for providing premises for the self-supporting convalescent homes. It must be confessed that Manchester does not contribute so generously as Birmingham and Leeds to these funds, nor has she provided convalescent homes for both sexes as they have, but the tone of the conferences induces the hope that greater support will be given in the future. The chairman of the fund said that the workmen's committee of the Red Cross Fund had for years been striving to increase the contributions from the workpeople of the district to the medical charities, but finding that no satisfactory progress was made it had decided to follow the course which Birmingham and Leeds had found successful, of providing convalescent homes to which the workpeople subscribing 1*d.* a week for men and ½*d.* a week for women and young persons would have free admission when they required it. To promote this object a bazaar was held last November and a sum of £10,000 was raised. There remained, therefore, now nothing more to do than to provide the homes and to equip them. It was pointed out by several of the hospital representatives that it would be very hard on the medical charities if there were any diminution in the contributions from the joint fund. It was explained that the money raised by the bazaar was for capital purposes only, and that the homes must be maintained out of the collections. In the past year, with only the promise of the home, the fund increased by nearly £300, and it was maintained that when actually in use sufficient money would be forthcoming for the upkeep of the homes without reducing the contributions to the hospitals, and that even if they suffered for a year or two it was certain that they would be largely benefited later. Suggestions were made with a view to the safeguarding of the interests of the hospitals, but in the end it was decided that these interests might safely be

intrusted to the workpeople's committee, which, knowing the benefits derived from the hospitals, was most anxious to help them. There is no doubt of the sincerity of these aspirations, of which all wish the fulfilment, and trust that it may not be said in the future that "Hope told a flattering tale."

New Appointments at the Manchester Royal Infirmary.

Dr. Ernest S. Reynolds having been elected full physician to the infirmary in place of the late Dr. Thomas Harris, the vacancy caused by his promotion has been filled by the election as assistant physician of Dr. Ernest Nicholson Cunliffe, late medical tutor at the Victoria University.

Oldham and the Manchester Infirmary.

In the not very far distant past the Manchester Infirmary was the one large hospital for a very wide district. Since those days large manufacturing towns have grown from small villages, population has greatly increased, and with this growth the needs of the people, and the sense of responsibility gradually affecting the local conscience has led to the establishment of hospitals in many of these towns. These changes, of course, would necessarily lead to changes in the destination of subscriptions, as the local charities would make a stronger appeal than the more distant one. The Oldham Infirmary now contains 130 beds, including eye wards and a children's ward but yet patients continue to come from Oldham to the Manchester Infirmary, so that last year these cases cost, it is said, £207, while the subscriptions from Oldham only came up to £74. The difficulty is not a very recent one, for in 1891 it was suggested that Manchester hospitals "should place limits on the reception of patients from surrounding towns which have hospitals of their own." The quotation is from the letter of an Oldham gentleman to the *Manchester Guardian*. He does not think it fair that Manchester should be expected to maintain Oldham patients, nor that Oldham should have to support its own institutions, and also pay for those who choose to go to Manchester. Nor is it. But there always has been, and probably always will be, this tendency to seek the greater centres. It is a matter of prestige, for it has long been known that a prophet must not look for honour in his own country. There is a glamour about the metropolis which affects the large provincial towns, while they in their turn are supposed to shine a little brighter that their smaller neighbours. It is not unlikely that the question will afford matter for discussion for a long time to come.

Nov. 20th.

LIVERPOOL.

(FROM OUR OWN CORRESPONDENT.)

University of Liverpool: New Appointments.

Dr. H. E. Annett has been appointed to the newly established chair of comparative pathology at the University of Liverpool. Professor Annett, who was a student of University College, Liverpool, graduated with honours in medicine at the Victoria University in 1894. He held the Holt fellowship in pathology and was awarded one of the 1851 exhibition scholarships, choosing as the subject of his research the Relation of the Diseases of Animals to those of Man. On his return from study at Berlin he was appointed assistant lecturer in tropical pathology at the Liverpool School of Tropical Medicine and in 1903 he became lecturer on comparative pathology at the University of Liverpool. He was a member of the first expedition sent out by the Liverpool School of Tropical Medicine to West Africa in 1899 and in 1900 he directed the second expedition of the school. The results of his investigations made on this expedition were published in a treatise on "Filariasis" which has become a standard work on the subject. Since 1902 Professor Annett has had the charge of the serum department of the Liverpool Institute of Comparative Pathology.—In consequence of the illness of Sir Rubert W. Boyce, Holt professor of pathology at the University, Dr. Ernest E. Glynn has been appointed deputy professor of pathology for the current session. Dr. Glynn is one of the assistant physicians at the Liverpool Royal Infirmary and is a graduate in arts and medicine of the University of Cambridge. He will probably resign his appointment at the Royal Infirmary.

The New Chairman of the Housing Committee.

Dr. Richard Caton has been elected the chairman of the housing committee of the Liverpool city council. Dr. Caton is the emeritus professor of physiology at the University of Liverpool and consulting physician to the Liverpool Royal Infirmary.

Nov. 20th.

WALES AND WESTERN COUNTIES NOTES.

(FROM OUR OWN CORRESPONDENTS.)

Typhoid Fever in Monmouthshire.

THERE were 27 cases of typhoid fever notified in the urban district of Abersychan during the past month. There appears to be little doubt that the initial cases in the outbreak were due to polluted water-supply. The district council is now very active in securing the closure of wells where the water is impure. In the case of two wells concerning which the local justices were asked to make closing orders the county analyst stated that the water was horrible in the extreme and was simply dilute sewage.

Medical Men and Local Administration.

Mr. J. Lynn Thomas, C.B., F.R.C.S. Eng., has been nominated high sheriff of Cardiganshire for the ensuing year.—Dr. Ransom Pickard has been elected sheriff of Exeter for the ensuing year. He is a member of the honorary staff of the West of England Eye Infirmary and also of the Exeter Dispensary; he is also a surgeon-captain in the 1st Volunteer Battalion of the Devon Regiment. Dr. Pickard has hitherto taken no part in municipal work but his appointment has given great satisfaction in Exeter, especially in view of the forthcoming visit of the British Medical Association to that city.—Dr. James Richard Bibby, the public vaccinator for the city of Gloucester, was elected to a seat on the Gloucester city council at the recent municipal election.

Cardiff Infirmary.

A few months ago, at the suggestion of Colonel Bruce Vaughan, it was decided to appeal for £7000 for the purpose of re-modelling the out-patient department of the Cardiff Infirmary. The appeal has been so successful that at present only £330 are needed to complete the required sum, and the committee hopes that this will shortly be collected.

Scarlet Fever at Dolgelly.

Fresh cases of scarlet fever broke out at Dolgelly last month and the medical officer (Dr. Hugh Jones) reported that efficient isolation was quite out of the question in small infected houses. Reference was made in the council meeting to the golden opportunity which had been lost by not accepting the offer of a site as a free gift for an isolation hospital. It was decided to refer the matter to a committee. Commenting on this matter the *Cambrian News* (Aberystwyth) states: "It is very hard to believe that the representatives of a fever-stricken community should persistently refuse to spend £600 or £700 in getting rid of disease, but there is the fact and there is no getting rid of it, that the trifling money payment stands in the way of the people's health and of the town's safety and prosperity." Dolgelly does not stand alone in its ignorant obstinacy, the writer adds, and amongst places named which are less well provided mention is made of Aberayron where there is neither a system of water-supply nor a system of drainage, and where "they accept sickness and death with fatalistic resignation, and even crowd their houses with other children between the death and burial of the victims of municipal ignorance and apathy."

Typhoid Fever in Winchcombe Rural District.

At a recent meeting of the Winchcombe rural district council the medical officer of health (Mr. W. Cox) reported an outbreak of typhoid fever in Cleeve Hill. 16 persons among a population of about 100 had been attacked. All the patients lived in a small valley and obtained water from wells supplied by a spring. The land above the spring was impregnated with sewage from the overflow of several tanks and from sewage carted and emptied on the surface. In previous reports the medical officer of health had predicted what would probably happen and had advised the district council not to grant certificates for the habitation of any more houses until a proper sewerage scheme had been carried out. The council decided to provide a temporary supply of water from a spring outside the sewage-logged area. It is to be hoped that the Winchcombe council will in future act

more speedily upon the advice of its medical officer of health. Its disregard in the past can hardly be considered creditable.

Infantile Mortality in Shropshire.

The rate of infantile mortality in Shropshire during 1905 was equal to 93 per 1000 births compared with 115 and 100 in the two previous years. Although this decreased death-rate may be considered satisfactory it is pointed out by Dr. James Wheatley, the county medical officer of health, in his annual report that a considerable proportion of the deaths were from preventable causes and would be prevented by the exercise on the part of the mother of intelligent care in the feeding and management of the infant and of proper care of her own health previously to confinement. Dr. Wheatley suggests that the elder girls in the public elementary schools should be educated in the feeding and management of children, and that mothers in their own homes should be instructed by lady health visitors and by midwives. He admits that the midwives will first of all themselves require to be taught, but thinks that we may look forward to a considerable reduction in the mortality of infants when we have an intelligent body of midwives trained in the principles of infant feeding and management.

North Devon Infirmary, Barnstaple.

A very successful three days' bazaar in aid of the funds of the North Devon Infirmary was opened on Nov. 6th by the Countess Fortescue. The first day's receipts amounted to over £600, a record for one day for any bazaar ever held in North Devon. The takings for the three days amounted to about £1500 and it is hoped that after defraying expenses a sufficient sum will be raised to enable the committee to clear off the debt of £1000 which still remains on the special building fund of the institution.

A Difficulty in Meat Inspection.

At a meeting of the Plymouth town council held on Nov. 12th the markets committee submitted the meat inspector's report on the deception recently perpetrated by a local butcher in removing the offal from a bullock and substituting that of another animal before submitting the carcass for inspection. The committee had instructed the town clerk to write to the butcher expressing strong disapprobation of his conduct. The report added that every member of the committee was anxious that a prosecution should take place but the town clerk advised that this could not be done, because the medical officer of health had found the carcass of the animal as being fit for food and the substitution of the viscera was not an offence punishable by law. The town council after hearing the explanation confirmed the minute.

Bristol Poor-law Infirmary.

At the last meeting of the Bristol board of guardians an attempt was once more made to abolish the wooden buildings which accommodate over 200 sick persons at the Eastville workhouse. Various schemes to provide suitable infirmary buildings have been before the board during the past few years but they have all been rejected for one reason or another, principally upon the score of the great expenditure involved. The latest proposal is to erect a double pavilion block with accommodation for about 200 patients at a cost of £13,000. The suggestion was opposed by those members who considered that the present buildings were sufficient and by those who advocated more extensive additions still. In the end the voting on the proposal was equal and the chairman declined to give a casting vote.

Nov. 20th.

SCOTLAND.

(FROM OUR OWN CORRESPONDENTS.)

Royal Medical Society, Edinburgh.

THE following office-bearers have been elected for the present session:—Senior President: Dr. A. M. Drennan. Presidents: Dr. J. J. Graham Brown, Dr. D. P. D. Wilkie, and Dr. N. S. Carmichael. Secretaries: Dr. A. C. B. McMurtrie and Dr. Mark Fraser. Dr. W. Macrae Taylor was unanimously re-elected treasurer.—At the second meeting a case of Broncho-pneumonia with Paralysis of Respiration was contributed by Dr. Graham, and the accounts of two cases of Ankylostomiasis were read by Dr. Graham Brown.—At the third meeting, held on Nov. 9th, Dr. Drennan delivered his presidential address on Hippocrates, the Father of Medicine.—A vote of thanks was moved by Dr. Ritchie and supported by Dr. Wilkie.—Dr. Mitchell then read a case of Hydatids of the Liver and a discussion followed.

Victoria Infirmary, Glasgow.

The third biennial dinner of the past and present resident assistants of this institution was held in Glasgow on Nov. 13th. Dr. Douglas W. Russell presided. The chairman, in a few excellently chosen words, proposed the toast of the "Victoria Infirmary." He stated that a new wing had been added to the infirmary since their last dinner and he was sure that those present rejoiced with him that one of themselves had been added to the chief staff. Dr. E. Duncan, in responding, gave a brief account of the origin of the infirmary, of the difficulties that had to be overcome, and of its gradual, but steady, growth, not only in size but in usefulness. The toast of the "Resident Assistants Past and Present" was proposed by Mr. R. H. Parry. He said that he scarcely liked to think of the length of time that had elapsed since the infirmary was opened and of the many "residents" who had been connected with the institution. He had heard that including the present resident assistants 64 names were upon the roll, three of whom had died. He assured the past and present "residents" of his interest and that of the other members of the staff in their welfare, in proof of which he hoped to promote and to encourage in every way he could the establishment of laboratories connected with the infirmary, where good work could be done. Dr. E. J. Primrose, a past resident, and Dr. A. A. C. McNeill, a present resident, suitably replied. Dr. Donald J. Mackintosh, M.V.O., superintendent of the Western Infirmary, gave some interesting reminiscences of his connexion with the infirmary in its early days. On the proposal of Dr. Hugh McLaren the health of the chairman was drunk with acclamation and a very happy evening was brought to a close.

The Treatment of Tuberculous Pigs in Glasgow.

At a recent meeting of the Glasgow health committee the corporation veterinary surgeon made an interesting statement with regard to the inadequacy of the present system of meat inspection. In one case a dealer refused to sell his pigs in the market to a Glasgow sausage-maker and frankly stated as his reason that as the pigs had come from Ayrshire it was possible that some of them might be tuberculous and any such would, of course, be condemned by the corporation veterinary surgeon. These same pigs were bought by a ham-curer in a neighbouring town where there was no danger of the pork being condemned. In this way the stringency of the Glasgow meat inspector is of little avail, for in all probability the pork after being cured would be sold to Glasgow grocers in competition with properly inspected pork. It is said that from 80 to 100 tons of boned-out pork ready for curing arrive in Glasgow every week from Ireland. The pigs are, as a rule, slaughtered on the premises of the small farmers and at no time before arrival in Glasgow do those carcasses appear to have been examined in order to determine as to their fitness for human food. In view of the statements made by the veterinary surgeon the health committee determined to draw the attention of the Local Government Board to the matter, with the suggestion that if the Board do not contemplate immediate action in the way of having a uniform and authoritative system of inspection adopted and enforced, it might at least consider as to the desirability of its appointing a visiting veterinary inspector who would be able to acquaint the Board with the state of matters existing throughout the country.

Parish Councils and Medicine for Paupers.

The Local Government Board has had its attention drawn to the fact that in the parish of Eastwood the parish medical officers are each paid a fixed sum for medicines supplied to paupers. The parish council has been notified that the Board regards this method of defraying the cost of medicines as objectionable. They prefer that the medical officers should be paid a fixed sum for attendance only and that they should render an account to the parish council for the medicines supplied, to be settled periodically, as may be agreed upon. The cost of medicines if duly vouched may, of course, be claimed against the medical relief grant.

Appointment of Physician to the Western Infirmary, Glasgow.

Dr. J. Lindsay Steven has been appointed to the post of

physician to the Western Infirmary, rendered vacant by the death of Dr. James Finlayson.

Post-Graduate Lectures and Demonstrations in Falkirk.

Much as the average general practitioner would like to attend post-graduate courses at a large medical teaching centre, by force of circumstances he is often unable to absent himself for the necessary time from his practice. To bring the post-graduate teaching to practitioners necessarily deprives it of much of its value owing to the inevitable detachment of the lecturer from his clinical material. Still, much good may be derived from a local post-graduate course when the subjects and lecturers are judiciously chosen. This has been proved by the success attending the course conducted under the auspices of the Falkirk and District Clinical Association. A committee of that body, after consultation with Dr. David Newman, one of the surgeons to the Glasgow Royal Infirmary, arranged for a course of seven lecture-demonstrations extending over seven weeks by members of the staff of the Glasgow Royal Infirmary. Dr. Newman gave an interesting demonstration by means of the opaque projector on the Uses of the Cystoscope in Bladder and Renal Diseases; also a clinical demonstration on Cystoscopy. Dr. J. Lindsay Steven took for his subject, Arterio-sclerosis; Mr. J. A. Campbell, the Opsonic Index; and Dr. T. K. Monro, Modern Methods of Examination in Stomach Cases. The interest in the course was well maintained, as, with a membership of 21, the attendance averaged 17. The meetings were held in the Falkirk Infirmary which was kindly placed at the disposal of the society by the managers, to whom, together with the matron, Miss Glendinning, the best thanks of the society are due.

Nov. 17th.

IRELAND.

(FROM OUR OWN CORRESPONDENT.)

Ulster Medical Society.

THE annual dinner of the Ulster Medical Society was held on Nov. 15th at the Medical Institute, Belfast. The President, Dr. D. P. Gaussen, occupied the chair, and there was a very large attendance. After the dinner, the toast of "The King" having been loyally received, the President proposed "The Lord Lieutenant and Prosperity to Ireland," and before calling on Sir John W. Byers to respond said that in the name of the Fellows and Members of the Ulster Medical Society he tendered their warmest congratulations to him on the recent honour conferred by His Majesty. Sir John Byers, who on rising received a most cordial reception, after speaking to the toast, thanked the President for his very kind personal remarks. Nothing had given him greater pleasure, he said, than the reception of so many letters and telegrams of congratulation from members of the medical profession—old teachers, colleagues at college and at the hospitals, and old pupils, many of whom occupied prominent positions. Dr. R. W. Leslie proposed the toast of "The Irish Medical Schools," in replying to which Mr. H. R. Swanzy (President of the Royal College of Surgeons in Ireland) regretted that the students of the Belfast Medical School—at least those of them who did not go in for a university degree at the Royal University—did not in greater numbers avail themselves of the opportunities afforded by the Irish College of Surgeons which, he said, was not a college for Dublin but for all Ireland. Professor J. Symington, who also replied, spoke of the great importance of the preliminary studies in medicine. Professor T. Sinclair proposed the toast of "The Guests," to which the Rev. Dr. Hamilton (President of Queen's College) and Professor E. A. Schäfer replied, the latter giving an interesting account from a physiological point of view of diabetes insipidus, in continuation of an address delivered by him some years previously in Belfast. The President and the honorary secretary of the society (Dr. Howard Stevenson) then replied to the toast of their healths, which was proposed by Dr. H. L. McKisack, and the proceedings terminated.

Belfast Medical Students' Association.

At the inaugural meeting of the session 1906-07 of the Belfast Medical Students' Association held in the McMordie Hall, Students' Union, Belfast, Dr. W. J. Leighton, the new President, delivered an interesting address on Quacks and Quackery, which was followed by a paper on Artificial Restoration of the Apparently Dead, as in operations under chloroform administration and in cases of apparent death from drowning, by Professor E. A. Schäfer of Edinburgh. The method recommended as most efficacious and simple was the "prone pressure method," by which the patient is placed face downwards and pressure is exerted upon the lower portion of the ribs, by which air is forced out of the lungs, and when this pressure is released there is a corresponding inhalation. The method was well explained and illustrated. On the motion of the President of Queen's College, Belfast, seconded by Dr. T. H. Milroy, a hearty vote of thanks was accorded to Professor Schäfer.

Nov. 20th.

PARIS.

(FROM OUR OWN CORRESPONDENT.)

The Presence of Formol in Certain Foods.

THE employment of formol for the preservation of foodstuffs is absolutely prohibited and regulations are being drawn up for the application of this prohibition, as it affects the regulations concerning trade frauds. M. Perrier, however, at a meeting of the Academy of Sciences held on Oct. 29th called attention to the matter, saying that formol should not be absolutely prohibited but that a definite limit should be fixed to the quantity allowed. He had been making some researches into the question and had found that formol is normally present in certain articles of food—notably in hams, sausages, chitterlings (*andouilles*), lard, and in smoked salted herrings. The amounts which he had met with varied from 0·03 of a milligramme to 2·67 milligrammes per 100 grammes of the food under examination.

Le Certificat d'Études Médicales Supérieures.

A sense of uneasiness is at present felt throughout medical circles in France. The professional associations (*syndicats*) are lodging protests and passing resolutions, all the medical journals are expressing their views, and even the ordinary newspapers are discussing the question which possesses so much medical interest. On Nov. 7th M. Brinad, the Minister of Public Instruction, received some deputations the members of which waited on him for the purpose of stating their grievances. The cause of all this agitation is the inclusion among medical titles of a *certificat d'études médicales supérieures* which was created by a decree dated the 25th of last July. As this new title carries with it an appearance of dignity the medical profession in France, knowing the magic influence of words on the public mind, promptly gave it their attention on the ground that it might contain some element of danger for ordinary practitioners. In a controversy of this kind it is desirable not to be too hasty and it is of the greatest importance to distinguish between words and things. The word—i.e., the designation of the certificate—is unfortunate, for it seems to imply the creation of a degree or diploma superior to that of Doctor of Medicine, with the natural result that there would be two classes of medical men—namely, those who were possessed of the certificate in question and an inferior rank holding only the ordinary qualification of Doctor of Medicine. Blame was freely laid on Professor Bouchard who was the *rapporteur* of the decision of the *conseil supérieur* of public instruction. The facts of the case, however, are as follows. The new certificate has no reference to medical practice and the question is one of a proper and necessary reform of an examination in the *concours d'agrégation*. Hitherto it has been complained, with good reason, (1) that this examination involved an excessive strain on the memory and (2) that the final results were too much governed by chance, so that a man of real knowledge but not skilful in answering questions at competitive examinations might be eclipsed by a candidate inferior in his attainments but possessed of more eloquence or less timidity. The object of the *certificat d'études médicales supérieures* is to show that the candidate has that general knowledge of purely scientific questions which is indispensable for those who are ambitious to become teachers. When the science examination (*preuve des connaissances générales*) has been passed and the certificate granted, the entrance examinations become unnecessary and the *concours d'agrégation* becomes a series of examinations for testing the candidate in the department of teaching which he has selected.

The preparation for *agrégation* is therefore divided into two stages, in the first of which a successful candidate obtains the *certificat d'études médicales supérieures* and in the second of which he obtains recognition as *agrégé*. To all appearance it would have been easy to have satisfied everybody by giving the certificate some other name, such as *certificat d'aptitude à l'agrégation* or *à l'enseignement médical* (certificate of competence as a medical teacher) with a previously announced limitation of the number to be awarded.

Conservative Amputations of the Foot.

At a meeting of the Surgical Society held on Nov. 7th M. Ricard communicated some details which had been sent to him by M. Souligoux with reference to ten cases of amputation of the foot. The tissues were preserved as much as possible. In three cases the operator amputated by the methods of Lisfranc and Chopart; in the remaining seven he employed the method recommended by M. Ricard, in which a tibio-tarsal incision is first made and then passing under the astragalus this bone and the foot are removed; the next step is to resect a portion of the calcaneum if necessary, after which the plantar tendons are sutured to the dorsal tendons, and the two cutaneous flaps are sutured together. The result is a well-covered stump on which an ordinary boot can be worn. This stump can be moved to some extent and is capable of supporting the weight of the body.

A Skin Eruption produced by Vanilla.

At a meeting of the French Society of Dermatology and Syphilography held on Nov. 7th, M. Brocq and M. Fage described the case of a woman who was admitted to a hospital on Oct. 27th suffering from an œdemato-erythemato-papular eruption. This eruption appeared after she had been engaged for ten days in putting up vanilla in packets. Almost all the other persons employed in the workroom had similar eruptions. The patient's face, neck, thorax, forearms, and hands were swollen. After ten days the only remains of the eruption were a dark (*bistre*) tinge of the skin, but the eruption reappeared on the patient resuming her work. M. Brocq made a long visit to the vanilla dealer's establishment and felt pricking sensations in his hands, face, and neck; they, however, gradually disappeared. Observers who have described this eruption have variously attributed it to an acarus, to mouldy growths, and to the tincture of catechu with which the product is coloured, but the vanilla itself seems to play an important part.

Nov. 19th.

ITALY.

(FROM OUR OWN CORRESPONDENT.)

Lorenzo Tenchini.

YOUR readers will remember that when describing[1] the programme of the Sixth Congress of Criminal Anthropology held in Turin I made mention of the assortment of crania contributed to its exhibition by Professor Tenchini as one of its attractive features. To-day I have to announce that that able and indefatigable worker in the anatomical department of the subject has, to the great grief of the profession, succumbed to an illness of brief duration at his native town of Brescia. When only 29 years of age he had, by comparative trial and against formidable competitors, been appointed professor in ordinary of anatomy in the University of Parma, and his pupils were in the act of preparing to celebrate his "giubbileo d'insegnamento" (jubilee as teacher) when the sad news put a stop to their loyal design. For many years he had made a special study of the cranium and its contents, and in co-operation with others of the Lombroso school had thrown much light on the *differentiæ* between the healthy and the diseased developments of that part of the human subject—not neglecting the deformed or the "monstrous" specimens—their combined work being inspired by the wish to put the "newest of the sciences" on a sound inductive basis. Embryogenesis also in the same connexion occupied much of his time and attention, and for the last two years he had been devoting special study to the thyroid gland, physiologically and pathologically considered. These later researches, conducted at Parma and Milan, and with the coöperation of other anatomical institutions, are now complete and the professional world are fondly expecting that either the Accademia dei Lincei (the Royal Society of Italy) or the State will undertake their publication—rich as they are in illustrative plates expensive to reproduce.

[1] THE LANCET, May 19th, 1906, p. 1437.

The Pisan "Sanatorio dei Tubercolosi."

Favoured by the perfection of autumnal weather the King and Queen on Nov. 14th went in their automobile from His Majesty's shooting box at San Rossore to lay the foundation stone of the Consumption Hospital at Cisanello in the neighbourhood of Pisa. The need for such an institution has long been recognised, "accommodated" as the patients have hitherto been in the very heart of the old hospital—in surroundings, moreover, which make treatment difficult and recovery or cure all but hopeless. In point of locality the new building could not be better situated—in a country district watered by the Arno, rich in the picturesque, and open to the fresh restorative air between the Tuscan Apennines and the seaboard. The plan of the building is of the most approved and the seven "palazzine" (palaces on a small scale) of which it will consist will stand in a demesne in which the landscape gardener will have coöperated effectively with the hygienic engineer. Of the opening ceremony I need only say that its success in every detail had been provided for by the authorities, urban, communal, and academic, and that, the first stone having been laid, the future of the "sanatorio" could not have been more happily forecast than in the speech of the distinguished professor of clinical medicine in the Pisan school, Dr. G. B. Queirolo. A masterly retrospect of the various theories of pulmonary phthisis and the treatment these inspired was followed by a luminous survey of the disease as now understood and combated, pathologically and clinically, and justified the speaker in the assurance which he gave to his non-professional audience that tuberculosis is no longer what it was held to be in the days of the French Laennec, or even of the German Virchow, the "morbo che non perdona" (the malady which does not pardon), but that in such sanatoriums as that just inaugurated both the "sufferer can be saved and society can be protected." Other speeches in similar strain brought the ceremony to a close, and in the evening a State banquet was given in the Villa Reale, after which their Majesties entertained the guests individually in gracious and mutually interesting colloquy.

Nov. 19th.

VIENNA.

(FROM OUR OWN CORRESPONDENT.)

Meningococci in the Circulating Blood.

AT a recent meeting of the Clinical Society of Trieste Dr. Marcovich read a paper on the theory of the hæmatogenic origin of cerebro-spinal meningitis and shortly afterwards a very instructive case of this description was observed by him. The patient, who was a sailor, 42 years old, was taken to a hospital in a feverish condition and semi-conscious. His friends stated that he had been ill for a few days. Examination revealed nothing but a few rhonchi in the lungs and some small roseolar spots on the trunk; all the other organs seemed to be normal. His condition became worse and three days later he died with symptoms of pulmonary œdema and collapse. The post-mortem examination showed the existence of purulent meningitis on the base and convexity of the brain, whilst all other parts of the brain appeared normal and the cerebro-spinal fluid was clear. Except some venous hyperæmia of the lungs, liver, and spleen, all other organs were in a normal condition. During the life of the patient several examinations of the blood had been made. The reaction after the Gruber-Widal test was negative, but a hanging-drop preparation showed some diplococci and when these were cultivated on agar, by which time the patient had died, they were recognised as genuine examples of the meningococcus of Weichselbaum, which had been therefore present in the living blood. Pus taken from the structures affected with meningitis also contained pure cultures of these micrococci. The clinical interest of such cases lies in the fact that true cerebro-spinal meningitis may be present without any other symptom than a slight rash and slight fever, but with impairment of consciousness.

Mutual Recognition of Austrian and Italian Medical Diplomas.

The visits of Italian students to the Austrian Universities

and *vice versâ* have of late been more frequent and the fact that about 1,500,000 Austrian subjects are of Italian origin and speak the Italian language has, together with certain political reasons, induced the Minister of Education to make arrangements with the Italian Government for the mutual recognition of the diplomas obtained at any university in Austria or Italy. This liberal measure may prove of very great value in medicine, as the medical attendance for the Italian-speaking part of the population in the Tyrol and the Austrian seaboard had to be given by practitioners unacquainted with Italian. Medical teaching is usually in the German language.

Post-graduate Lectures.

A series of post-graduate lectures has been instituted by the Aerztekammer (Medical Council) for Vienna with a view of enabling practitioners to obtain at a minimum cost a knowledge of the latest developments in practical medicine. All the prominent university teachers of special branches, including surgery, medicine, pædiatrics, ophthalmology, otology, and hygiene, gave their assistance and the fees were so low (3*s.* for a course lasting a week and 5*s.* for a course lasting a fortnight) that every medical man was able to avail himself of the opportunity. The classes were thronged and it is in contemplation to repeat them on a larger scale and to institute similar lectures at a nominal fee in all Austrian university towns. The only drawback is the lack of time, as only the vacation months are available for this kind of lecture. Combined with the demonstration evenings of the different clinics these lectures offer a convenient means by which practitioners may prevent their knowledge becoming rusty.

The Surgical Treatment of Ulcer of the Stomach.

At a recent meeting of the Vienna Medical and Surgical Society Professor Hochenegg explained the present trend of thought as to surgical interference with the non-perforating ulcer of the stomach. He said that a surgeon must be consulted if careful internal treatment was ineffectual and if the patient suffered from pain, vomiting, dyspepsia, and inability to work or to enjoy life. The after-effects of the ulcer, such as stenosis of the pylorus, must also be dealt with by the surgeon. But the new, and not always recognised, indication for operation was bleeding, which might either be repeated but not copious or it might amount to dangerous copious hæmorrhage. Immediate operation was advisable on account of the tendency of the patient to become weaker. The operation should always be gastro-enterostomy because it offered the least amount of danger and produced no shock. If the stomach was full of blood it could not contract well, as its function was impaired by the irritation of the ulcer and the blood-vessels were at the same time more filled than if the stomach were contracted. If, therefore, the stomach was allowed to empty itself through the gastro-enterostomy wound it could contract, the vessels would be less distended, and the wound was more likely to heal. Experiments on dogs and cats with artificially produced hæmorrhages in contracted and in dilated stomachs proved the correctness of the supposition. Professor Hochenegg is therefore prepared to operate in the above-mentioned way on severe hæmorrhages from the stomach and his results are the following. He has operated upon 94 cases within the last five years for this reason and among these patients there were six deaths, being a mortality of 7 per cent. In 12 per cent. of the cases the operation had not the desired effect but all the other patients recovered. The best method is that named after Peterson but originating from Professor Hochenegg; it consists in attaching the posterior wall of the stomach by means of a small opening to the upper part of the jejunum. In this way the ulcus pepticum and the "circulus vitiosus," which were frequent sequelæ of gastro-enterostomy, were easily avoided.

Nov. 19th.

CONSTANTINOPLE.

(FROM OUR OWN CORRESPONDENT.)

Bottling the Jordan.

A JERUSALEM correspondent reports, says the *Levant Herald*, that considerable interest is being taken in Palestine in the scheme of an American company to export the waters of the Jordan river to the United States to serve for baptismal and other religious purposes. Colonel Nadaud, the president of the International River Jordan Water Company, has been at the Jordan for some time with a staff of 20 men who are busily engaged in boiling, filtering, and disinfecting 60,000 kilogrammes (equalling 60 tons) of river water. The company's camp and the working scene at the Jordan form a great and a most unusual sight. Natives in charge of large camel caravans and tourists to the Holy Places of Christendom crowd around the camp at all hours to ascertain what it all means, and their opinion of Western wisdom must have considerably gone down if they have learned. This water is being placed in barrels of 600 kilogrammes capacity; each barrel has thoroughly to be cleaned and steamed inside with boiling water and soda, and then washed again with a disinfectant in order to kill any germs that may lurk in the wood. The greatest precautions are being taken to insure the absolute purity of the water which will reach the consumer in as pure a condition, if not as fresh, as spring water. Every barrel of the water will be sealed by the seal of the American Consul at Jerusalem, under his supervision at the Jordan, also under the supervision of a Turkish official and of the Patriarch of Jerusalem who will be represented by a monk sent there from St. John's Convent, near the Jordan. The seal of each barrel will only be broken as it is used in New York City, U.S.A., in a Government warehouse, by an authorised committee, and bottled only under its supervision. It is said also that the water will be used as a sort of a panacea for different affections by those who have a strong and sincere belief in the wonder-working efficacy of the Jordan river.

The Sanitary State of Asia Minor.

The sanitary and hygienic condition of some of the provinces of Asia Minor has recently been made public and considerable progress is reported. The mortality-rate generally has very considerably decreased during the last ten years in all the centres mentioned. The reforms brought about by the sanitary service, the construction of hospitals, the plantations of shrubs and trees at different centres, the irrigation works, the discovery and creation of new sources of water-supply, and so on have all been crowned with marked happy results. Especially is this the case in the vilayet of Konia, where the governor-general, Férid Pasha, has taken from the very first a keen interest in the improvement of the sanitary and hygienic state of the extensive domain under his rule. The plantations of Erégli, Caraman, Nigdé, Ak-Shéhir, and Séraini on the plains destined for the settlement of numerous immigrants and the irrigation works of Silé, of the great level lands of Konia, &c., works which will cost, according to a more or less accurate estimation, about 2,000,000 francs, have made steady and satisfactory progress, and will, of course, tend to decrease mortality and to improve the sanitary conditions generally to a still greater degree. In Konia the authorities of the sanitary service visit regularly all the schools and watch over the state of health of the school children. Poor patients receive gratuitous attendance in the hospitals of the municipality, which are at present very well managed. The vilayet of Konia is being imitated in this respect by other provinces of Asia Minor. It is satisfactory also to state that the Ottoman Government is perfectly willing to grant all the necessary sums of money for whatever extension works the sanitary authorities may decide upon. The difficulty, however, lies in the fact that the required means are not always available.

Nov. 17th.

AUSTRALIA.

(FROM OUR OWN CORRESPONDENT.)

The Plague.

ON Oct. 8th a patient died from plague in Sydney. He removed the body of a dead rat from a cellar on Sept. 24th and was taken ill on Oct. 1st. This is the first case of plague in Sydney since July 14th. It is over six years since the health authorities in Australia satisfied themselves of the connexion between rats and plague and that destruction of rats was the main factor in preventing the disease. It is surprising to Australians that it has taken the authorities in India so long to arrive at the same conclusion. That they have at last taken satisfactory action, as reported in a cablegram stating that "the extermination of rats in 60 towns in the Punjab has been an extraordinary success," is apparently largely due to Dr. C. J. Martin, Director of the

Lister Institute, London, but formerly Professor of Physiology in Melbourne. An outbreak of plague has occurred at Noumea in New Caledonia.

Small-pox.

A case of small-pox has occurred at Newcastle, New South Wales, on board the steamer *Ardgowan*. The crew have been quarantined at the nearest quarantine station—Stockton. For some unknown reason an attempt was made to tow the crew to Sydney for quarantine but failed owing to the roughness of the weather.

Diphtheria and Soil.

An outbreak of diphtheria has occurred at Elwood, a marine suburb of Melbourne. The houses in which it occurred were built on made ground, on what had been practically a swamp, reclaimed by drainage and filling up. A committee considered the question of allowing building on the reclaimed land in 1904 and recommended that the ground must be underdrained and that no building should be allowed for a considerable number of years.

An Alleged Cure for Cancer.

For many years in Melbourne a man named Davis has been professing to cure cancer by a secret application and he has repeatedly applied to the Government for assistance to prove his claims as to its efficiency. Recently the Premier referred an application of this kind to the departmental and university advisory committee; and Dr. W. P. Norris (chairman of the Board of Health), Dr. T. Cherry, and Professor W. A. Osborne interviewed Davis who agreed to apply his treatment to cases under their supervision and to allow medical practitioners nominated by them to investigate cases treated by him. The committee then advised that £50 should be made available to enable an investigation to be made. Davis, however, subsequently declined the proposal and asked for a Royal Commission of investigation.

The Danysz Virus for destroying Rabbits.

Dr. F. Tidswell, the micro-biologist to the New South Wales Board of Health, has made a progress report on his investigations concerning the virus which Dr. Danysz proposes to use for destroying rabbits in Australia. The report is very long and detailed but the whole course of the very carefully devised experiments revealed that the virus while fatal to rabbits was, so far as natural means of infection were concerned, remarkably innocuous to the other kinds of animals exposed to it. Amongst these animals were those which seemed most likely to have opportunities of conveying the virus from an island to the mainland and he concludes that experiments may safely be made on Broughton Island. Many more observations, however, are needed, in Dr. Tidswell's opinion, before the virus could be pronounced safe for distribution broadcast over the land.

Insanity in Victoria.

The Inspector-General of the Insane in Victoria, Dr. Ernest Jones, in his annual report states that the rate of freshly occurring insanity is diminishing. During 1905 there were 630 first admissions to the asylums, as against 664 in the previous year, 681 in 1903, 691 in 1902, 679 in 1901, and 602 in 1900. The rate for 1905 of 1 admission to every 1678 of population he regards as very favourable and hopeful for the future. The death-rate was the lowest for 12 years. Dr. Jones advocates the payment of some contribution by the lunacy department to benevolent asylums for the maintenance of cases which crowd the hospitals for the insane. New morgues and a pathological laboratory were necessary. A higher proportion of nurses and attendants should be allowed in the hospital and refractory wards and the acute wards. The necessity of providing for the supervision and care of "borderline" cases is pointed out and the Lunacy Act should be amended in this direction, empowering the lunacy authorities to permit "home" treatment of recent and curable cases on receipt of notification from the medical attendant. Another class for which provision is required is that of the patient who himself recognises that he requires treatment but whom his medical attendants do not care to certify. A modification of the "voluntary boarder" clause of the English Act would meet this. A well-equipped acute mental hospital for recoverable cases situated near the metropolis was an urgent necessity. —A deputation of members of Parliament recently waited on the Chief Secretary of Victoria to protest against the practice of employing female nurses in the male wards of lunatic asylums. They stated that their employment at Beechworth had been a distinct failure and in sharp contrast to the successful record of the male attendants. The Chief Secretary said that he would consult the Inspector-General on the subject.

Ministerial Inspection of Asylums in New South Wales.

The Chief Secretary of New South Wales has recently visited some of the asylums of which he is the "ministerial head," among them being Callan Park. He found the arrangements satisfactory, but the accommodation inadequate for the 1000 patients there.

Cases of Malpractice.

John F. Sheridan, who was charged with murder through an illegal operation but who had disappeared, was found by the police and tried at Adelaide on Oct. 9th. The jury brought in a verdict of manslaughter and the judge said that the prisoner had been found guilty on the clearest evidence, and having regard to the seriousness of the offence and the necessity of deterring others, passed a sentence of 10 years' imprisonment with hard labour. One of the principal witnesses who had declined to give evidence for fear of incriminating herself was given a pardon and then gave evidence.—An inquest was held in Melbourne, on Sept. 29th, on the body of a young woman who died at the Melbourne Hospital. The medical evidence showed that death was due to septic peritonitis consequent on an illegal operation. Her dying depositions were taken and she identified a nurse named Hope as the woman who had operated on her. The jury found Hope guilty of murder.

Obituary.

On Sept. 15th Dr. W. S. Cortis passed away at his residence in Manly, New South Wales, at the age of 86 years. He came to the State 30 years ago for the benefit of his health and was an invalid during nearly the whole of that time. He formerly practised at Filey, Yorkshire. He has two sons in the profession, Dr. W. R. Cortis and Dr. Herbert Cortis.—Dr. Joseph Cookson of Horsham, Victoria, died very suddenly while on a visit to Sydney. He was a graduate of the University of Melbourne and had practised successfully at Horsham for many years. He was 43 years of age and the cause of death was heart disease. He had gone away for a rest on account of his health.—Another medical identity has passed away in the person of Dr. James Duncan of Bairnsdale, one of the oldest residents in the town. He was educated at the University of Aberdeen, where he took his M.D. degree, and started practice in Bairnsdale in 1876. His health had been failing for some time and he took a holiday trip to the South Seas. Soon after his return he became paralysed and slowly sank. He was 65 years old and was much respected in the district in which he had practised so long.

Oct. 16th.

LIVERPOOL HOSPITAL SUNDAY FUND: ANNUAL REPORT, 1906.—The committee, in presenting its thirty-sixth annual report, regretted that the contributions to the fund from church and chapel collections showed no advance upon last year's figures. The income from that source amounted to £6343, as against £6354. The total amount available for distribution, including the balance from last year, was £6564, as against £6484. The increase was accounted for by a legacy under the will of the late Mr. H. S. Mather of £89, a unique event in the history of the fund; there was also a saving of £60 in expenses. The sum contributed to the joint Hospital Sunday and Saturday Fund was £6288, which, added to the amount from the Hospital Saturday Fund, made a grand total for distribution of £14,850, equalling the highest grant hitherto made. The committee desired to express its hearty thanks to the Welsh committee for the latter's successful efforts on behalf of the Liverpool medical charities in the appeal to the churches and chapels in North Wales, which resulted in an increased contribution of £50, making £150 for the year. The grants included £3155 to the Royal Infirmary, £2190 to the Royal Southern Hospital, £1893 to the David Lewis Northern Hospital, and £1188 to the Stanley Hospital. The lowest contribution was £37 2s. 6d. to one of the minor, though useful, charities. The expenses in working the fund were very moderate, involving a sum of only £162. There is a balance of £114 carried over to next year's account.

Obituary.

GUSTAVE ISIDORE SCHORSTEIN, M.A., M.D. OXON., F.R.C.P. LOND.

BY the death, at the early age of 43 years, of Gustave Isidore Schorstein the science and art of medicine, both in London and in Oxford, loses one of her foremost representatives. He was born in 1863 and received his education at the City of London School and at Christ Church, Oxford, of which latter society he was elected a junior student in 1881. He gained a first class in Honour Moderations and a second class in the Final Honour School of Literæ Humaniores. After taking his degree in 1885 he remained for some 18 months at Christ Church acting as tutor and also doing some work in anatomy and physiology. He then entered at the London Hospital as a third year student. He graduated M.B. and B.Ch. in 1889, became a Member of the Royal College of Physicians of London in 1891 and Fellow in 1897, while in 1904 he proceeded to the degree of M.D. After qualifying he held the posts of house physician and house surgeon and was appointed assistant physician to the London Hospital in 1894, being assistant to Sir Stephen Mackenzie, and after holding this post for ten years he was made full physician in 1905. At the time of his death he was also physician to the Hospital for Consumption and Diseases of the Chest, Brompton, and in the earlier part of his career he had been assistant physician to the Royal Hospital for Diseases of the Chest, City-road.

Dr. Schorstein was not only a physician of singular acumen and sound knowledge but he had the rare faculty of infusing his own energy and capacity for organisation into others. He was devoted to the interests of both the Oxford Medical School and the London Hospital School and it was in great measure due to him that the former has become the centre of activity which it now is. Of his services to the London Hospital alike as a physician, teacher, and co-worker with the lay staff it is impossible to speak too highly, and his passing away leaves a gap which will indeed be hard to fill. He wrote but little in the medical journals, but two very interesting cases from his pen appeared in our columns, the one "A Case of Congenital Absence of Both Clavicles" in THE LANCET of Jan. 7th, 1899, p. 10, and the other contributed jointly by himself and his house physician, Mr. A. J. Walton, on "A Case of Glioma of the Pons," which appeared in our issue of April 14th, 1906, p. 1035. He was initiated into Freemasonry in the Earl of Mornington Lodge and was one of the founders of the London Hospital Lodge, in which at the time of his death he held one of the senior offices. Of his character outside his purely professional work one of his most intimate friends writes: "Schorstein was one of those rare natures whose friendship it is a very high honour to possess. He was widely read and highly cultured, a lover of music and of all forms of art. To be in his company was a liberal education and I can never forget two all too short holidays which we spent together in Spain and in Italy. He could adapt himself to all sorts and conditions of men and whether he was talking to a statesman or a diplomatist or to a recently arrived Jewish refugee from Eastern Europe in a wonderful *lingua franca* compounded of German, Yiddish, and fragments of other languages his was always the same alert mind that could seize upon the salient points in the conversation. Children and animals adored him and knew at once that they were in the presence of a friend. And, indeed, his helpfulness to his patients lay not so much in his sound medical knowledge as in the sympathy which radiated from him. The loss which his friends, his patients, and the institutions with which he was connected have sustained by his passing is incalculable, for in very truth it may be said of him as of Sir Gawaine in the old romance—

> "The fifth five that the fair knight wont to use
> Were open frankness and good fellowship,
> Cleanness and ever-ready courtesy,
> And gentle pity that all strength surpassed.
> These five were set more fast upon the man
> Than on aught other; . . . . "

His remains were laid to rest in the cemetery of the West London Synagogue at Golder's Green on Nov. 20th. Among those present at Portland-place or at the cemetery were, besides the members of the family, Dr. William Osler, Regius Professor of Medicine in University of Oxford; the Bishop of Dorking, a very old and intimate friend; Dr. Robert Maguire, representing the medical staff of the Brompton Hospital; Dr. Percy Kidd, who attended Dr. Schorstein through his last illness and who was his colleague at both the London and the Brompton Hospitals; Dr. F. J. Smith, Dr. C. H. Wall, Mr. C. W. Mansell Moullin, F.R.C.S., Mr. T. H. Openshaw, F.R.C.S., C.M.G., Mr. P. Furnivall, F.R.C.S., Mr. H. F. Tod, F.R.C.S., Mr. A. B. Roxburgh, F.R.C.S., Mr. W. T. Lister, F.R.C.S., Mr. James Sherren, F.R.C.S.; Dr. S. H. Habershon, Dr. Sidney P. Phillips, Dr. Maurice E. Paul, and Dr. H. P. Cholmeley. There were also numerous friends and relatives, together with representatives of the lay staffs of the London and Brompton Hospitals.

GUSTAVE ISIDORE SCHORSTEIN, M.A., M.D. Oxon., F.R.C.P. Lond.

SAMPSON ROCH, M.R.C.S. ENG., L.R.C.P. IREL.,

RETIRED DEPUTY SURGEON-GENERAL, ARMY MEDICAL SERVICE.

BY the death of Deputy Surgeon-General Sampson Roch another of the few remaining Crimean veterans has passed away. The sad event took place at his residence, Woodbine Hill, near Youghal, Ireland, on Nov. 9th and has produced the deepest sorrow in the whole neighbourhood. The deceased was born on June 29th, 1829, and was the youngest son of the late Mr. George Butler Roch, J.P., of Woodbine Hill; he received his medical education at Trinity College, Dublin, and obtained the diplomas of M.R.C.S. Eng. and L.M. Rotunda in the year of the Crimean war.

Surgeon Roch entered the Army Medical Department in 1854 and joined the troops before Sebastopol during the siege; he was frequently in the advanced works and was present when the Russian rifle-pits were taken in April, 1855. On June 6th, 1855, when attached to the 12th Field Battery, Royal Artillery, while restraining by digital pressure the bleeding from a wounded gunner's thigh as he was being carried to the rear, a shell dropped near the carrying party who took refuge behind a gun-carriage. Surgeon Roch neither relaxed his hold nor moved from his position until the explosion of the shell scattered his patient's brains in his face. For this act of gallantry he was "mentioned in dispatches." On June 7th, 1855, he volunteered and accompanied the French when they stormed the

Mamelon. On the 17th of the same month, after 24 hours in the trenches, Surgeon Roch again volunteered for the attack which took place on the day following. Surgeon Roch served in Bengal during the Mutiny from 1857 to 1859, he was in the Mauritius from 1860 to 1865, and was selected to accompany the embassy under Colonel Middleton to the Court of Radama, King of Madagascar. In 1867 he volunteered to go to Abyssinia and was appointed to the charge of the *Golden Fleece* hospital ship. This was one of the first occasions on which hospital ships were used in our army and it was a post of much responsibility. Deputy Surgeon-General Roch was for many years surgeon to the 55th Regiment and served with it both at home and in India. He left the army in 1881 and obtained the Licentiateship of the Royal College of Physicians of Ireland in 1885. He was soon afterwards appointed medical officer of health of Cheltenham, which post he held until 1892 when he retired to his family home in Ireland.

Deputy Surgeon-General Roch was an Irish gentleman of the best type—genial, kind, hospitable, and courteous, and enjoyed not merely the respect but also the affection of those by whom he was known. He was a keen sportsman and a naturalist of no mean order and sent several valuable specimens to the gardens of the Zoological Society, of which he was made a Fellow. He leaves a widow and two sons, one of whom is now serving in the Royal Army Medical Corps.

THOMAS PARTRIDGE, M.R.C.P. IREL., M.R.C.S. ENG., L.S.A.

Mr. Thomas Partridge died at his residence in Stroud, Gloucestershire, on Nov. 14th in his seventy-seventh year. He received his medical education at the Birmingham Medical School and became qualified as M.R.C.S. Eng. and L.S.A. in 1859 and 1855 respectively. He took the diploma of L.R.C.P. Irel. in 1866 and was admitted a Member of that College in 1879. Mr. Partridge was highly respected in Stroud, where he had practised for half a century. He was for many years medical officer of health of the Stroud urban and rural districts, only retiring from the appointment about eight years ago. He took a great interest in ambulance work, being formerly a lecturer and examiner of the St. John Ambulance Society, and an honorary associate of the Grand Priory Order of St. John of Jerusalem. He was at one time Surgeon-Major in the 2nd Volunteer Battalion of the Gloucester Regiment and was for a short time an assistant surgeon in the United States Navy. Mr. Partridge will be much missed in Stroud and the district, for he took a keen interest in all local matters up to the time of his death.

ELECTION OF DIRECT REPRESENTATIVES UPON THE GENERAL MEDICAL COUNCIL.

THE last day for the receipt of nomination papers was Wednesday, Nov. 21st, so that the medical profession has now before it the names of all the candidates. The voting papers will be issued between Nov. 24th and 29th, the last day for their return being Dec. 7th; the declaration of the poll will be made on Dec. 12th.

The final list of the English candidates is: Mr. G. H. Broadbent, M.R.C.S. Eng., L.R.C.S. & L.M. Irel.; Mr. G. Brown, M.R.C.S. Eng., L.S.A.; Dr. H. Langley Browne, M.D. Birm., F.R.C.S. Edin.; Mr. G. Jackson, F.R.C.S. Eng., L.R.C.P. Lond.; Dr. H. A. Latimer, M.D. Dun., M.R.C.S. Eng.; Dr. L. S. McManus, M.D., M.Ch. R.U.I.; Mr. J. Rutherford Morison, M.B. Edin., F.R.C.S. Eng.; Dr. C. J. Renshaw, M.D. St.And., M.R.C.S. Eng.; Dr. J. M. Rhodes, M.D. Brux., L.R.C.P., L.R.C.S. Edin.; Dr. F. J. Smith, M.B. Oxon., F.R.C.P. Lond., F.R.C.S. Eng.; and Mr. Joseph Smith, M.R.C.S. Eng., L.S.A. Mr. Morison's name is absent from the official list of nominations.

The Scotch candidates are Dr. W. Bruce, M.D. Aberd., L.R.C.S. Edin., and Dr. N. Walker, M.D., F.R.C.P. Edin.

The Candidature of Dr. F. J. Smith.

GENTLEMEN,—So long as the scheme of the British Medical Association for the election of Direct Representatives to the General Medical Council held the field I felt that I had better hold my peace, but now that has been withdrawn and a large number of metropolitan practitioners have done me the honour to nominate me for election to the General Medical Council I feel that I am naturally called upon to state my views on some of the burning questions of the election.

Firstly, I may pledge myself, if elected, to do all in my power by voice and vote to help the General Medical Council to uphold, or even to raise, the present standards of general education for the profession, which, I think, have two excellent tendencies, first to prevent undesirable crowding of the profession, and, second, to insure that those who do enter its portals are well-educated gentlemen.

Secondly, I pledge myself to support the General Medical Council in any steps it may think it right to take to endeavour to curb the hydra-headed monster of quackery now rampant in the land and which to me seems equally potent with hospital abuse in tending to produce deterioration in private practice. I am not sure that it is not in even a greater degree responsible for the "hard times" of the profession.

Thirdly, I pledge myself, so far as may fairly be done, to see that in any matters brought before the Council the interests of general practitioners shall receive fair and generous consideration. I may claim to have a good working knowledge of what these special interests are in a broad general sense, for I have for 20 years been in almost daily contact with members of that class and listened with sympathy to their grievances.

On the other hand, I will state fearlessly that I am not in favour of trying to urge upon the General Medical Council any ill-considered scheme of democratic legislation which may present a superficial appearance of satisfying the dissatisfied, but which, upon closer scrutiny, is found to contain clauses ultimately damaging to the honour of the profession to which I am proud to belong. Beyond these general statements I do not feel at liberty to pledge myself, but in conclusion I would like to state very emphatically that I have no private object to gain by election and were it not for the honour done me in my nomination I would not have dreamt of standing as a candidate.

Your obedient servant,

Harley-street, W., Nov. 20th, 1906. FRED. J. SMITH.

The Candidature of Mr. J. Rutherford Morison.

To the Editors of THE LANCET.

SIRS,—By this time the practitioners who take any interest in this election must be pretty well posted up in the merits of the respective candidates. We do not propose therefore to do more in this last word on Mr. Morison's behalf than to answer the only objection—if, indeed, it can be dignified by that name—to his candidature. He is accused in some quarters of being a consultant, and to this he must plead guilty. To alter slightly the words used in reply to Poole the tailor, who was complaining to some aristocratic friend of the mixed nature of the company at the foreign spa he was then favouring with his company, "Hang it all, man, we can't all be tailors" (general practitioners). To the general practitioners of the North who know Mr. Morison best and have deliberately chosen him on this as on many other occasions to be their representative, the fact of his being a consultant, with his previous record of 13 years in general practice and his work for us since he became a consultant, seems to give him a peculiar claim on the support of the profession, as he is enabled to look at all medical questions from both sides. We know where his sympathies lie, and with the record of Sir Victor Horsley before us we are not to be made ashamed of our candidate because he does not now happen to be in general practice.

We would earnestly appeal to the profession to distribute their votes, other things being equal, with some reference to the geographical distribution of the candidates. The medical men in this part of the country have pretty generally made up their minds to vote for Messrs. Morison, Browne, and MacManus on the grounds that these gentlemen are thoroughly good candidates and represent broadly the North, Midlands, and South. We appeal finally for such a vote, however distributed, as will once for all end the cry that medical men take no interest in their own business.

We are, Sirs, yours faithfully,

E. JEPSON, Chairman.
ALFRED COX, } Honorary Secretaries to Mr.
J. H. HUNTER, } Morison's Committee.

Cotfield House, Gateshead, Nov. 19th, 1906.

The Candidature of Mr. George Brown, Mr. George Jackson, and Mr. Joseph Smith.

To the Editors of THE LANCET.

SIRS,—The keynote of this election ought to be "increased Direct representation of the profession." In order to secure this every man should in the first place take the trouble *to vote*, as it is just because half of our numbers do not do this that further representation cannot be obtained. In the second place, every man should vote for those candidates who are most likely to obtain for us this fundamental reform. Without any disparagement of the other excellent candidates before the profession, we submit that our old and tried representatives, Messrs. Brown and Jackson, have worked harder than any to obtain increased representation and if re-elected will continue to do so. They have also an intimate knowledge of the difficulties that beset practice, especially in club and contract work. Mr. Joseph Smith has had life-long experience in all kinds of practice and has been an untiring advocate of corporate reform in the Royal College of Surgeons.—We are, Sirs, yours faithfully,

W. G. DICKINSON, Chairman,
JNO. POLLOCK SIMPSON, Honorary Secretary,
Messrs. Brown, Jackson, and Smith's Election Committee.

9, Adam-street, Strand, W.C., Nov. 20th, 1906.

The Candidature of Dr. L. S. McManus.

To the Editors of THE LANCET.

SIRS,—During the course of this election I have, as one of the candidates, been repeatedly asked my opinion on various medico-political topics that are of interest to the profession and which I do not seem in my address to have fully dealt with. May I ask to be allowed through the medium of your paper to amplify my circular? I would at once wish to say that the General Medical Council is primarily formed to safeguard the public, but by using the money subscribed by the profession. This anomaly requires correcting. In my opinion I consider that if the General Medical Council will extend its dictum in other directions, as it has already done in the case of covering, advertising, and touting, we shall find that by protecting the public they are really helping the profession. The interests of the two are identical. I shall therefore constantly keep this in view in pressing on them, if elected, the extension of the use of those powers already possessed by them.

With regard to the preliminary education and subsequent medical examination of medical students, I am strongly in favour of one standard, and that a high one. In this way we can hope for *esprit de corps* being a natural instinct among the future profession. The ethical education of students can be organised by associations or medical societies, but if there is an opportunity to get the General Medical Council to consider it I shall heartily support it.

If the General Medical Council can be brought to see that by cutting of fees the health of the community is being risked and therefore a dictum has become desirable, I shall be only too glad to help in the matter. This also applies to quacks, medical and dental companies formed to evade the law, manufacturers and sellers of proprietary drugs, and counter prescribing by chemists.

The medical profession requires increased direct representation on the General Medical Council. If all will bestir themselves at this election and fill in their voting papers, then the accusation made by the Council of apathy with regard to this matter will be no longer true.

I shall, if elected, be only too glad to receive petitions by the hundred in favour of this last point, and will see they are duly attended to.—I am, Sirs, yours faithfully,

LEONARD S. MCMANUS.

25, Spencer-park, Wandsworth Common, S.W., Nov. 20th, 1906.

To the Editors of THE LANCET.

SIRS,—We are desired to thank the 523 supporters of Dr. Leonard Strong McManus for the energetic canvass that they have undertaken on his behalf and to inform them that he has to-day sent in to the Registrar of the General Medical Council some 16 nomination forms duly filled in on his behalf, which have been received from all parts of England and Wales.

The committee hopes that his supporters will continue their canvass right up to the end, i.e., the 4th December next. They appreciate the kindly and valuable support given to him by the committees formed to further the interests of other candidates, and regret that the seats put at the disposal of the profession are at present so inadequate for their due representation; otherwise they would gladly see all who have been nominated by them returned to serve for the next five years. They are all good reliable men.

As it is, they would ask the electors to remember that there seems to be at present a sufficient number of trustworthy representatives of the consultants, such as Professor R. Saundby, on the Council; and to consider, seeing only three *can* now be returned and a selection has to be made, whether these three should not be men who are at the present time general practitioners. If this is considered reasonable they would ask all to vote for H. W. Langley Browne, H. A. Latimer (Welsh candidate), and L. S. McManus, all of whom are general practitioners, are anxious to help the profession, are strenuously working to make the British Medical Association of use to the profession, and are strongly supported in every district where they are known. This combination also recognises, so far as it is possible in selecting three men, the principle of territorial representation.

We are, Sirs, yours faithfully,

E. ROWLAND FOTHERGILL,
CHAS. J. MARTIN,
Honorary Secretaries to Dr. McManus's Committee.

111, Northcote-road, Wandsworth Common, Nov. 19th, 1906.

The Candidature of Mr. G. H. Broadbent.

To the Editors of THE LANCET.

SIRS,—May I through the columns of THE LANCET make a final appeal to the general medical practitioners of England and Wales to show by their vote at the forthcoming election to the General Medical Council that they are opposed to public vaccinators intruding themselves on the privacy which should exist between family medical attendants and their patients. Let every general practitioner remember that this legalised form of touting is robbing him of one of his legitimate sources of income and unless he shows by his vote that he is opposed to the practice he must expect little consideration in any legislation which may be introduced during the next session.

General practitioners must not be misled by the secretary of the Birmingham Medical Practitioners' Union. They must remember Dr. Langley Browne is not only a public vaccinator but that by his election address he is pledged to endeavour "that licensed practitioners should pay an *annual* fee to the State during the years they should be in active practice."

Of all the candidates one only defines his attitude on the touting for vaccination question. This is Mr. G. H. Broadbent. I have therefore no hesitation in asking every general practitioner to vote for Mr. Broadbent and to vote for Mr. Broadbent only, remembering: (1) That by voting for Mr. Broadbent only he will be practically giving him three votes; (2) he will be offering a most emphatic protest against the practice of canvassing by public vaccinators; and (3) he will be resenting the imposition of any further tax upon his income. I am, Sirs, yours faithfully,

N. L. USHER SOMERS.

The Grange, West Bromwich, Nov. 19th, 1906.

The Candidature of Dr. Charles J. Renshaw.

To the Editors of THE LANCET.

SIRS,—We wish through the medium of your paper to urge the claims of Dr. Charles J. Renshaw to the support of the medical practitioners of England and Wales at the forthcoming election of Direct Representatives on the General Medical Council.

Sir Victor Horsley has supported the suggestion that in the election the territorial claims of the various candidates should be considered. The fairness of this course is generally admitted; we should like, however, to point out that not one of the three candidates whose election he advocates represents the very large group of medical men situated in the North-west of England. Dr. Renshaw has spent his life in general practice in the neighbourhood of Manchester and is intimately acquainted with all the aspirations and difficulties of general practitioners. His opinions upon those questions of medical politics which are of interest to the profession at the present time were expressed in his election address which appeared in THE LANCET of Oct. 13th. Since this date Dr. Renshaw has been appointed a member

of the Council of the Association of Certifying Factory Surgeons.

We confidently appeal to all general practitioners to support one who will work steadily for the betterment of their position, and especially to those of Lancashire and Cheshire, to vote for a candidate who has always lived amongst them and who is in the closest possible touch with all the local opinion on current medical politics.

Copies of Dr. Renshaw's election address and all particulars of his candidature, &c., may be obtained from the honorary secretaries.—We are, Sirs, yours faithfully,

C. ADOLPHE K. RENSHAW,
Lindenholme, Sale;
J. A. KNOWLES RENSHAW,
11, St. John-street, Manchester;
Honorary Secretaries Election Committee.
SAMUEL BUCKLEY,
Chairman of Committee.

The Candidature of Dr. William Bruce.

To the Registered Medical Practitioners Resident in Scotland.

LADIES AND GENTLEMEN,—I beg respectfully to again offer myself as a candidate for the honourable post of Direct Representative for Scotland at the approaching election.

For 20 years I have endeavoured to discharge the duties of that position to the satisfaction of my constituents and with a single eye to the interest of the medical public. I hope I have not been unsuccessful in my endeavours to do my duty honestly and properly. I hold strongly that the profession is not fully enough represented at present in the Council, and my first efforts will be directed to induce the Council to enlarge the present number of representatives elected directly. Failing to get the Council to take up the duty which it is legally entitled, if not bound, to do, I propose, along with my English and Irish colleagues in the direct representation, to petition the Privy Council to come to our rescue and appoint at least one more representative for each of the three divisions of the United Kingdom.

As regards medical education and training, I hold strongly that these should be more practical and clinical than they now are. In particular, the great department of midwifery is not taught as it should be. Clinical attendance at a lying-in hospital ought to be compulsory. The present medical curriculum much requires to be lightened in its first stages by relegating botany, physics, and biology, to *a preliminary* science examination. In this way more time could be devoted to general clinical work, as also to special subjects such as psychology, eye, ear, throat, and skin diseases.

If successful in my candidature, I trust I shall be able to assist also in dealing with the question of the sale of patent medicines, in reform of hospital abuse, and in maintaining the reputation of the profession by discountenancing, as far as the Council can, contract medical practice.

I am, ladies and gentlemen, your obedient servant,
WILLIAM BRUCE, M.D.

P.S.—Perhaps I may be allowed to mention that, on the issue of my previous address some months ago, I had the satisfaction of receiving promises of support from 765 electors. To them and to the numerous others who have since then announced their intention of voting for me, I beg to offer my most grateful thanks. W.B.

The Candidature of Dr. Norman Walker.

To the Medical Practitioners of Scotland.

LADIES AND GENTLEMEN,—For my reasons for asking your support in my candidature for the post of Direct Representative for Scotland I refer you to the inclosed address, in which I expressed my views on those matters which I believe come within the province of the General Medical Council.

I may perhaps be permitted to remind you, as further reasons, of my considerable experience in medical public work. As senior editor of the *Scottish Medical and Surgical Journal* I am necessarily acquainted with all the movements in our profession. As secretary of the Edinburgh branch and the Representative for several years of the Edinburgh and Fife branches on the Council of the British Medical Association, I have become fully acquainted with the political side of medical work. When, in view of this election, I withdrew from the representation of the Edinburgh branch, the Council of the Association did me the much-appreciated honour of coöpting me to its membership. I have served on nearly all its chief committees and am at present chairman of the science committee of the Association. As a member of the board of management of the triple qualification of the Scottish Colleges I am brought into close contact with the direction of medical education, and I believe I have been of some use in that capacity. In the business committee of the general council of the University of Edinburgh I am to some extent in touch with the working of our Universities, in which all Scottish graduates take so much interest.

As a set-off to the fact that I am no longer engaged in general practice, I inclose a testimonial[1] from those so engaged in Edinburgh, among whom I work and who know me best. It will be my constant endeavour as your representative to maintain and raise the position of our noble and self-denying profession.

I am, Ladies and Gentlemen, yours obediently,
Edinburgh, Nov. 16th, 1906. NORMAN WALKER.

Medical News.

ROYAL COLLEGE OF SURGEONS IN IRELAND.—The following candidates having passed the necessary examination have been admitted Licentiates in Dental Surgery of the College:—

W. T. Anderson (Galway), P. M. Black (Dublin), R. F. Cooper (Wexford), J. E. Hogan (Dublin), P. D. McCreery (Kilkenny), A. K. Macdonald (Dublin), T. J. Ollivere (Cork).

FOREIGN UNIVERSITY INTELLIGENCE.—*Basle:* Dr. A. Labhardt has been recognised as *privat-docent* of Pathology.—*Berlin:* Dr. Adolf Bickel has been appointed Extraordinary Professor of Internal Medicine.—*Breslau:* Dr. Paul Krause, of the University Medical Clinic, has been granted the title of Professor.—*Gratz:* Dr. Max Hofmann has been recognised as *privat-docent* of Surgery and Dr. Eugen Petry as *privat docent* of Medicine.—*Heidelberg:* Dr. Krehl of Strasburg has been appointed Professor of Special Pathology and Therapeutics.—*New York (College of Physicians and Surgeons):* Dr. F. W. Jackson has been appointed Professor of Medicine.—*Rostock:* Dr. Paul Erdmann has been recognised as *privat-docent* of Ophthalmology.—*Strasburg:* Dr. Martin Bardels of Marburg has been recognised as *privat-docent* of Ophthalmology.

UNIVERSITY OF CAMBRIDGE.—A memorial from members of the Senate has been presented to the Council urging that a paper or papers in natural science should be included among the compulsory subjects in the Previous Examination.—Mr. R. P. Gregory, of St. John's College, has been appointed senior demonstrator of botany.—A university lectureship in botany, stipend £100 a year, is vacant by the appointment of Professor Seward to the chair of botany.—Dr. B. Anningson, Professor G. H. F. Nuttall, Dr. J. Lane Notter, Dr. R. D. Sweeting, and Dr. A. Newsholme have been appointed examiners in State Medicine in 1907.—Professor Nuttall, Dr. C. W. Daniels, and Major W. B. Leishman, R.A.M.C., have been appointed examiners in tropical medicine and hygiene in 1907.

DONATIONS AND BEQUESTS.—A legacy of £5000, bequeathed by the will of Mr. John Nield of Apsley House, Ashton-under-Lyne, will shortly be paid to the treasurer of the Ashton District Infirmary.—Mr. H. L. Saltarn of Lyndhurst, Hampshire, has bequeathed £8000 to the Manchester Royal Infirmary, £8000 to the Royal South Hants and Southampton Hospital, and £4000 each to the Manchester Eye Hospital and the Southampton Eye Hospital.

UNIVERSITY COLLEGE, LONDON.—The council has received from the committee and subscribers of the Carey Foster Testimonial Fund the sum of £143 to be applied in the award of an annual prize in physics to be known as the Carey Foster Research Prize. This fund is the balance of the fund raised for the portrait of Professor G. Carey Foster by Mr. Augustus John which was presented to the council in July.—The council has conferred the title of Professor of Clinical Medicine on Professor J. S. Risien

[1] Appended to Dr. Walker's address were the names of 400 practitioners.—ED. L.

Russell.—Professor Sir Victor Horsley, who has been connected with University College as a student and as a teacher for 30 years, has resigned his Professorship of Clinical Surgery and his position as surgeon to the hospital on account of increasing public and private professional duties. The council, in accepting his resignation, adopted unanimously the following resolution:—

That the council, having received with great regret Sir Victor Horsley's resignation of his Professorship of Clinical Surgery and his position of surgeon to University College Hospital, whereby his official connexion with the College is severed, desire to put on record their recognition of his long service to the College and the distinction he has conferred upon it by his eminence as a scientific investigator.

PRESENTATION TO A MEDICAL PRACTITIONER.—Mr. Robert Jones, M.D., B S. Lond., F.R.C.S. Eng., M.R.C.P. Lond., President of the Medico-Psychological Association of Great Britain and Ireland, has been presented by the association with an illuminated address on vellum as a token of the esteem in which he is held by the members and as an acknowledgment of his services as honorary general secretary for a period of over nine years.

CONVICTION OF AN ABORTIONIST.—At the Devon assizes held on Nov. 16th a woman, aged 35 years, was charged with feloniously using an instrument on various occasions from February to September last. There were altogether 24 indictments against the prisoner who was eventually found guilty and sentenced by Mr. Justice Kennedy to penal servitude for five years.

DEATH FROM ALCOHOLIC POISONING.—At Devonport on Nov. 12th a coroner's jury, after hearing the medical evidence, found that the cause of death of a naval stoker who died in a railway carriage on the way from Newcastle to Devonport was due to acute alcoholic poisoning. The evidence showed that the deceased drank two pints of whisky undiluted on the journey.

COLSTON DAY IN BRISTOL.—Nov. 13th was observed as Colston Day in Bristol in the usual manner. In the evening the dinners of the Dolphin, Anchor, and Grateful Societies were held when the aggregate collections for the charities amounted to £3345, compared with £3626 in 1905.

CARE OF THE FEEBLE-MINDED.—A Conference of After-Care Committees was held on Nov. 8th at Denison House, Vauxhall Bridge-road, under the auspices of the National Association for the Feeble-Minded. Sir William Chance presided at the morning session, when a paper was read by Mrs. Hume Pinsent urging the formation of after-care committees wherever special schools exist. Mrs. Pinsent took the opportunity of pointing out the necessity for segregation and showed if this were done how much energy and enthusiasm now expended on a hopeless task would be available for other work. The chairman pointed out that while the most constructive side of the work lay in the formation of colonies for permanent care, yet those outside institutions would always require the friendly aid of after-care committees. As an outcome of the paper a resolution was subsequently passed in favour of establishing such associations at all centres. Dr. Boulenger (Belgium) described the after-care work that had been done in Belgium. Then followed the reports of the various after-care committees—Birmingham, Leicester, London, Nottingham, and Bristol. It was stated that other centres, recently started, did not care to report just yet, and also that a central committee had been formed to collect and summarise every year the reports of all the local associations. In the afternoon Lady Frederick Brudenell-Bruce took the chair and again urged the formation of industrial colonies. Dr. W. A. Potts (Birmingham) read a paper on Family Histories. He divided the feeble-minded into two groups: (1) deviations from the normal, which was always a small class; and (2) degenerative. The latter were recruited largely from those who were mentally weak; when not originating in that way consumption, alcoholism, and other diseases were found in the family record to an extent out of all proportion to what obtains among normal school children. He urged, in addition to other measures, the preaching and practice of hygiene as a means of diminishing the numbers of defectives. Dr. Henry Ashby (Liverpool), who followed, asked for more records and more facts and strongly deprecated any hasty conclusions. He stated that many of those who went to prison would do better in industrial colonies which were so necessary for many of those leaving the special schools at the age of 16 years. A short paper by Sir Edward Brabrook on Method and the Value of Unity in the Statistical Side of After-Care Work brought the proceedings to a close.

Dr. Arthur Whitfield has been appointed Professor of Dermatology in King's College, London.

Parliamentary Intelligence.

HOUSE OF COMMONS.

WEDNESDAY, NOV. 14TH.

Civil Servants and Vaccination.

Mr. T. F. RICHARDS asked the Prime Minister whether he could permit Civil servants to claim exemption from the compulsory clauses of the Vaccination Acts equally with other citizens who had a conscientious objection, and whether he would request other Ministers to consider favourably any application made to them.—Sir HENRY CAMPBELL-BANNERMAN replied: The compulsory clauses of the Vaccination Acts only apply to children under the age of 14 years. As regards the requirement of vaccination in the case of candidates for appointment in the Civil Service the matter is one for the Civil Service Commissioners or for the head of the department concerned and it does not appear to me that the matter is one in which I could properly intervene.

Conscientious Objectors to Vaccination.

Mr. LUPTON asked the Secretary of State for the Home Department whether his attention had been called to the case of E. M. Walden of 37, Medusa-road, Catford, who had been summoned for not vaccinating his youngest child, he having been refused an exemption certificate on two successive occasions at the Greenwich police-court by Mr. Kettle and another magistrate, notwithstanding that the same court had, on two previous occasions, given him exemption certificates in the case of other children; and what steps he proposed to take to prevent the continual prosecution of conscientious objectors.—Mr. GLADSTONE answered: I have received a letter from Mr. Walden but I regret that I have no authority to take action. The matter is one placed by statute within the discretion of the magistrate, and the only remedy for the anomalies which at present occur lies in an alteration of the law. Legislation for the purpose would be in the hands of my right honourable friend the President of the Local Government Board.

Prison Crèches.

Mr. PICKERSGILL asked the Secretary of State for the Home Department whether his attention had been drawn to the report of the medical officer of Birmingham Prison for last year that no fewer than 68 babies at the breast with their mothers were admitted to the prison during the year, and that in the case of these babies the recently established crèche was found very beneficial; whether a crèche existed in other prisons which had a similar proportion of babies among their inmates; and, if not, would he consider the desirability of establishing crèches in all prisons in which a considerable number of babies were received.—Mr. GLADSTONE replied: Yes, sir. It was decided that crèches should be established at prisons where more than 50 babies were received during the year. This has now been done at all such prisons with the exception of Manchester where the work is in progress.

FRIDAY, NOV. 16TH.

The Gordon College, Khartoum.

Mr. GEORGE GREENWOOD asked the Secretary of State for Foreign Affairs whether vivisectional experiments were habitually performed at Gordon College, Khartoum, in the Wellcome Research Laboratories, or elsewhere; whether the Gordon College, though not under the control of the Foreign Office, was in any way subject to British control; whether the Wellcome Research Laboratories formed part of such college or what was their connexion with it; how such laboratories were maintained and whether or not by public money; and whether operators in such laboratories or otherwise at the Gordon College were subject to any inspection, regulation, or control.—Sir EDWARD GREY replied: No vivisectional experiments in the ordinary sense of the term are conducted at the Wellcome Research Laboratories but from time to time painless hypodermic inoculations have been given to living animals in order to further the diagnosis and cure of the obscure tropical diseases to which men and animals are exposed when living in the Soudan, and many valuable results have been obtained. The Gordon College is under an executive committee and trustees appointed under the Gordon College at Khartoum Act, 1899. The Research Laboratories, the equipment of which was given by Mr. Henry S. Wellcome to the Soudan Government, are affiliated to the Gordon College. The maintenance of these laboratories is a charge upon the Gordon College, the revenue of which is derived partly from an endowment and partly from a grant made annually by the Soudan Government. The laboratories are constantly visited by several members of the Soudan Governor's Central Sanitary Board.

MONDAY, NOV. 19TH.

Defective Vision among Irish Children.

Mr. JOHN REDMOND asked the Chief Secretary to the Lord Lieutenant of Ireland whether defective vision was rapidly on the increase in Ireland; whether the authorities in England and in Scotland were making elaborate and extensive arrangements for the testing of the sight of children attending public schools in these countries and for guarding against the further increase of this scourge; whether the Commissioners of National Education in Ireland had taken any steps in this matter or had collected any information whatever with reference to the prevalence of defective sight amongst children attending Irish schools; and whether the Government proposed to take any steps in the matter.—Mr. BRYCE, in reply, said: The Commissioners of National Education inform me that they have no information as to whether defective vision is on the increase in Ireland. I understand that certain local education authorities in England have, of their own motion,

recently given attention to the matter of defective vision in children, The Commissioners of National Education have not, they inform me, taken any steps in the matter but I will without delay commend the subject to their consideration.

TUESDAY, NOV. 20TH.

School Baths.

Mr. JOWETT asked the President of the Board of Education whether his attention had been called to a report recently issued by the London County Council giving particulars as to school baths in Germany and Holland; and whether, in view of the advantages possessed by the school children of the two countries named from the use of such baths, he would take steps at an early date leading to the general application of the same system in this country.—Mr. BIRRELL answered: I have seen the valuable and interesting report referred to in the question and I should hope that the very practical information which it contains may tend in the direction desired by the honourable Member towards a more general application of the system in this country. But to make it in any way compulsory would require legislation which I am not prepared to undertake. Many local education authorities in this country are already putting into effect their powers under the Baths and Washhouses Acts.

Poisoning among Industrial Workers.

Mr. JOWETT asked the Secretary of State for the Home Department whether he was aware that during the first nine months of the present year 483 cases of poisoning had occurred among workers in various industries; and whether he could promise early legislation with a view to dealing more effectively with the industries in which the cases occurred.—Mr. GLADSTONE replied: Yes, I am aware of these statistics of poisoning cases for the current year which are compiled by my department. The Home Office has very full powers under the Factory Act of dealing with dangerous trades, in particular by the issue of regulations under Part IV. of the Act. That its action has been attended by a considerable measure of success is, I think, shown by the fact that the number of cases of poisoning has fallen from 1331 in 1899 to 663 in 1905, a reduction of 50 per cent. in six years. Earlier in the session I laid on the table of the House a memorandum showing the action taken by the Home Office with regard to dangerous trades to which I would refer the honourable Member. Further codes of regulations are in preparation, among which I may mention a code for horse-hair industries in connexion with anthrax and the revision of the existing codes for paints and colours and the enamelling of metals which have been found to be inadequate. I may also mention that I am inquiring into the use of poisonous woods in certain manufactures. I do not think I can usefully propose further legislation on the subject at the present time.

Vaccination in Bengal.

Mr. LUPTON asked the Secretary of State for India whether he was aware that during the season of 1903-04 2,748,638 persons were vaccinated in Bengal and that of that number 2,066,716 were vaccinated with human lymph; that in the Bombay Presidency human lymph continued to be used for vaccination in the majority of cases; that the use of human lymph in India was liable to propagate leprosy, a disease that was on the increase; and whether, in view of the liability of propagating other bad diseases and of the fact that, owing to the heat of the climate, glycerinated calf lymph did not keep well, he would put a stop to this system of vaccination, seeing that the revaccinated British troops were not exempt from small-pox.—Mr. ELLIS, who replied, said: Bengal and Bombay for special causes are behind other parts of India in introducing calf lymph, but both Provinces are endeavouring to extend its use and thereby reduce the risk of communicating disease. The method of preserving calf lymph in India in an aseptic form has of late years been improved and the preparations now made are reported to withstand the climate. In the meantime the Secretary of State cannot undertake to stop the present system of vaccination.

BOOKS, ETC., RECEIVED.

AMERICAN LARYNGOLOGICAL ASSOCIATION (Secretary, JAMES E. NEWCOMB, M.D., 118, West 69th Street, New York).

Transactions of the Twenty-eighth Annual Meeting of the American Laryngological Association, held at Niagara Falls, N.Y., on May 31st, June 1st and 2nd, 1906. Price not stated.

APPLETON, SIDNEY, London.

Operative Gynecology. By Howard A. Kelly, A.B., M.D., LL.D., F.R.C.S. (Hon. Edin.), Professor of Gynecological Surgery in the Johns Hopkins University, and Gynecologist to the Johns Hopkins Hospital, Baltimore. With 11 plates and 703 original illustrations for the most part by Max Brödel, Associate Professor of Art applied to Medicine in the Johns Hopkins University. Second edition, revised and enlarged. In two volumes. Price, £3 3s. net.

A Text-book of Human Physiology. By Dr. Robert Tigerstedt, Professor of Physiology in the University of Helsingfors, Finland. Translated from the third German edition and edited by John R. Murlin, A.M., Ph.D., Assistant Professor of Physiology in the University and Bellevue Hospital Medical College, New York City. With an introduction to the English edition by Professor Graham Lusk, Ph.D., F.R.S. Edin. Price 21s. net.

The Prophylaxis and Treatment of Internal Diseases. Designed for the Use of Practitioners and of Advanced Students of Medicine. By F. Forchheimer, M.D., Professor of Theory and Practice of Medicine and Clinical Medicine, Medical College of Ohio, Department of Medicine of the University of Cincinnati. Price 21s. net.

Operative Otology. Surgical Pathology and Treatment of Diseases of the Ear. By Clarence John Blake, M.D., Professor of Otology in Harvard University, and Henry Ottridge Reik, M.D., Associate in Ophthalmology and Otology, Johns Hopkins University. Price 15s. net.

Abdominal Pain, its Causes and Clinical Significance. By A. Ernest Maylard, M.B., B.S. Lond., Surgeon to the Victoria Infirmary, Glasgow. Second edition, revised. Price 7s. 6d. net.

ARTISTIC PUBLISHING COMPANY (MANCHESTER), LIMITED, Moss-lane, Altrincham. (SANITARY PUBLISHING COMPANY, LIMITED, 5, Fetter-lane, London, E.C.)

Elementary Science applied to Sanitation and Plumbers' Work. By A. Herring-Shaw, R.P.C., Assoc. Royal San. Inst., Vic. University San. Certificate, Hons.'s. Silver Medallist City and Guilds of London Institute. Lecturer, &c., and Chief Assistant, Municipal and Sanitary Engineering Department, School of Technology, Manchester. First edition. Price 2s. 9d. net (3s. 6d. in Colonies).

CONSTABLE, ARCHIBALD, AND CO., LIMITED, London.

The Integrative Action of the Nervous System. By Charles S. Sherrington, D.Sc., M.D., Hon. LL.D. Tor., F.R.S., Holt Professor of Physiology in the University of Liverpool, Honorary Member of the American Physiological Society. Price 16s. net.

MURRAY, JOHN, 50A, Albemarle-street, London, W.

The Tragedy and Comedy of War Hospitals. By Sister X. Price 6s. net.

Appointments.

Successful applicants for Vacancies, Secretaries of Public Institutions, and others possessing information suitable for this column, are invited to forward to THE LANCET *Office, directed to the Sub-Editor, not later than 9 o'clock on the Thursday morning of each week, such information for gratuitous publication.*

DAVIES, L. G., M.D. Cantab., has been appointed Certifying Surgeon under the Factory and Workshop Act for the Histon District of the county of Cambridge.

FLEMING, R. J., M.B., B.S. Durh., has been appointed District Medical Officer by the Devonport Board of Guardians.

FORSYTH, CHARLES E. P., M.B Aberd., has been appointed Assistant Pathologist in the London School of Clinical Medicine, Seamen's Hospital ("Dreadnought"), Greenwich, S.E.

FULLAM, W. F., L.R.C.S. Irel., L.A.H. Dub., has been appointed Certifying Surgeon under the Factory and Workshop Act for the Balbriggan District of the county of Dublin.

MORRICE, G. G., M.D. Cantab., M.R.C.P. Lond., has been appointed Consulting Physician to the Royal Dispensary, Portland.

PATTERSON, NORMAN, M.B., B.Ch. Edin., F.R.C.S. Eng., has been appointed Senior Clinical Assistant to the Golden-square Throat Hospital.

WADIE, M. D., M.R.C.S., L.R.C.P. Lond., has been appointed House Surgeon to St. Peter's Hospital for Stone, London, W.C.

WEAR, ALGERNON, M.D., B.S. Durh., has been appointed Honorary Medical Officer in Charge of Medical Cases at the Southern Branch of the Leeds Public Dispensary.

WHITFIELD, ARTHUR, M.D. Lond., F.R.C.P. Lond., M.R.C.S., has been appointed Professor of Dermatology at King's College, London.

WILLIAMS, P. WATSON, M.D. Lond., M.R.C.S. Eng., has been appointed Honorary Physician to the Throat and Nose Department of the Bristol Royal Infirmary.

Vacancies.

For further information regarding each vacancy reference should be made to the advertisement (see Index).

BETHLEM HOSPITAL.—Two Resident House Physicians (unmarried) for six months. Salary at rate of £25 each per quarter, with board, lodging, and washing.

BIRKENHEAD BOROUGH HOSPITAL.—Senior and Junior House Surgeons. Salaries £100 and £80 per annum, with fees, board, and residence.

BIRMINGHAM AND MIDLAND HOSPITAL FOR SKIN AND URINARY DISEASES, Birmingham. Clinical Assistant. Salary at rate of 52 guineas per annum.

BLACKBURN COUNTY BOROUGH, EDUCATION COMMITTEE.—Assistant to the Medical Officer of Health. Salary £150 per annum.

BOURNEMOUTH, ROYAL VICTORIA HOSPITAL.—House Surgeon. Salary £100 per annum, with board, lodging, and laundry.

BRENTFORD UNION INFIRMARY AND WORKHOUSE.—Assistant Medical Superintendent, unmarried. Salary £120 per annum, with apartments, rations, washing, &c.

BRIDGE OF WEIR CONSUMPTION SANATORIA.—Assistant Resident Medical Officer. Salary £100, all found.

BRISTOL GENERAL HOSPITAL.—Senior House Surgeon. Salary £150 per annum, with board, residence, &c.

CENTRAL LONDON OPHTHALMIC HOSPITAL, Gray's Inn-road, W.C.—House Surgeon. Salary at rate of £50 per annum, with board and residence.

CHESTERFIELD AND NORTH DERBYSHIRE HOSPITAL AND DISPENSARY.—Junior House Surgeon. Salary £60 a year, with board, apartments, and laundress.

CHURCH STRETTON, STRETTON HOUSE PRIVATE ASYLUM.—Assistant Medical Officer. Salary £150.

CLAYTON HOSPITAL AND WAKEFIELD GENERAL DISPENSARY.—Junior House Surgeon, unmarried. Salary £80 per annum, with board, lodging, and washing.

COVENTRY AND WARWICKSHIRE HOSPITAL.—Senior House Surgeon. Salary £100 per annum, with rooms, board washing, and attendance. Also Junior House Surgeon for six months. Salary £60 per annum, with rooms, board, washing, and attendance.

DUBLIN, ROYAL HOSPITAL FOR INCURABLES, Donnybrook.—Resident Medical Officer, unmarried. Salary £150 per annum, with board and apartments.

DURHAM COUNTY COUNCIL.—Inspector of Midwives and Health Visitor (female). Salary £120 per annum, rising to £150, with travelling expenses.

EAST SUFFOLK AND IPSWICH HOSPITAL.—Third House Surgeon. Salary £50 per annum, with board, washing, and residence.

GLAMORGAN COUNTY ASYLUM, Bridgend.—Junior Assistant Medical Officer, unmarried. Salary £150, with board, apartments, attendance, and washing.

GRAVESEND HOSPITAL.—House Surgeon. Salary £100 per annum, with board and residence.

HOSPITAL FOR CONSUMPTION AND DISEASES OF THE CHEST, Brompton, S.W.—Physician.

HOSPITAL FOR SICK CHILDREN, Great Ormond-street, W.C.—Medical Registrar. Honorarium 50 guineas. Also Resident Medical Superintendent. Salary 100 guineas per annum, with board and residence. Also House Surgeon for six months. Salary £20, with board and residence.

HULME DISPENSARY, Dale-street, Stretford-road, Manchester.—House Surgeon. Salary £150 per annum, with apartments, attendance, coal, and gas.

IRELAND, ROYAL NATIONAL HOSPITAL FOR CONSUMPTION.—Junior Resident Medical Officer. Salary £75 per annum, with residence, board, and laundry.

KENSINGTON GENERAL HOSPITAL, Earl's Court, S.W.—House Physician for six months. Salary at rate of £60 per annum, with board, washing, and residence.

LEEDS PUBLIC DISPENSARY.—Honorary Pathologist. Also Honorary Assistant Dental Surgeon.

LEEDS, UNIVERSITY OF, FACULTY OF MEDICINE.—Demonstrator of Bacteriology. Salary £200 per annum.

LONDON HOSPITAL, Whitechapel, E.—Physician.

LONDON THROAT HOSPITAL, 204, Great Portland-street, W.—Anæsthetist. Also Senior Surgeon.

LOUGHBOROUGH AND DISTRICT GENERAL HOSPITAL AND DISPENSARY. Resident House Surgeon. Salary £80 a year, with rooms, attendance, and board.

MANCHESTER ROYAL INFIRMARY.—Resident Medical Officer, unmarried. Salary £150 per annum, with board and residence.

MILLER HOSPITAL AND ROYAL KENT DISPENSARY, Greenwich-road, S.E.—Honorary Physician to Out-patients.

NEWPORT AND MONMOUTHSHIRE HOSPITAL.—Junior Resident Medical Officer. Salary £70 per annum, with board, residence, and washing.

NORTH-WEST LONDON HOSPITAL, Kentish Town-road.—Resident Medical Officer and Assistant Resident Medical Officer for six months. Salary at rate of £50 per annum, with board, residence, and washing.

OLDHAM INFIRMARY.—Junior House Surgeon. Salary £75 per annum, with board, residence, and washing.

PRESTWICH, MANCHESTER, COUNTY ASYLUM.—Junior Assistant Medical Officer, unmarried. Salary £150, increasing to £250, with board, apartments, and washing.

ROYAL EAR HOSPITAL, Dean-street, Soho, W.—Two Clinical Assistants for six months.

ROYAL EYE HOSPITAL, Southwark, S.E.—Honorary Assistant Surgeon.

ROYAL WATERLOO HOSPITAL FOR CHILDREN AND WOMEN, S.E.—Senior and Junior Resident Medical Officers. Salaries at rate of £70 and £40 per annum respectively, with board and washing.

SAMARITAN FREE HOSPITAL FOR WOMEN, Marylebone-road, N.W.—Physician to Out-patients Department.

SHEFFIELD ROYAL INFIRMARY.—Junior Assistant House Surgeon. Salary £65 per annum, with board and residence.

SOUTHAMPTON, ROYAL SOUTH HANTS AND SOUTHAMPTON HOSPITAL.—House Physician. Salary £100 per annum, with rooms, board, and washing.

UNIVERSITY COLLEGE HOSPITAL, Gower-street, London, W.C.—Assistant Surgeon. Also Surgical Registrar.

WADSLEY, NEAR SHEFFIELD, WEST RIDING ASYLUM.—Fifth Assistant Medical Officer. Salary £140, rising to £160, with board, &c.

Births, Marriages, and Deaths.

BIRTHS.

CHARNOCK-SMITH.—On Nov. 17th inst., at Steyning, Sussex, the wife of C. Charnock Smith, M.R.C.S., L.R.C.P., of a daughter.

MANSELL.—On Nov. 12th, at Portland-road, Woodside, South Norwood, the wife of A. R. Mansell, L.R.C.P., &c., of a daughter.

MATHESON.—On Nov 18th, at 72, Trafalgar-road, Greenwich, the wife of John Matheson, M.A., M.B., C.M., of a son.

WALKER.—On Nov. 14th, at Lucknow, the wife of Captain J. N. Walker, I.M.S., of a son.

MARRIAGES.

BURTON—LEAF.—On Nov. 15th, at Immanuel Church, Streatham Common, Arthur Burton, M.D., of Cromer, to Olive Clare Leaf, the youngest daughter of the late Frederick H. Leaf, of Streatham Common.

LETT—BUCKSTON BROWNE.—On Nov. 14th, at All Souls', Langham-place, Hugh Lett, F.R.C.S., to Helen Buckston, only daughter of George Buckston Browne, of Wimpole-street.

DEATHS.

CROSSLEY.—On Nov. 12th, at Uckfield, Sussex, Arthur Crossley, Surgeon, in his 45th year.

NORTON.—On Nov. 17th, suddenly, at Upper Gloucester-place, N.W., George Everitt Norton, M.R.C.S.

SCHORSTEIN.—On Nov. 16th, at Portland-place, W., Gustave Isidore Schorstein, M.D. Oxon., F.R.C.P. Lond., aged 43 years.

N.B.—A fee of 5s is charged for the insertion of Notices of Births, Marriages, and Deaths.

Notes, Short Comments, and Answers to Correspondents.

THE METHODS OF A LIFE ASSURANCE OFFICE.

To the Editors of THE LANCET.

SIRS,—We trust that you will be good enough to give due prominence to this letter that it may serve as an efficient warning to other medical men. Some three months ago we were severally, and unknown to each other, approached by a man called "Robins," an agent of the Life and Health Assurance Association, Limited, with a view to become their medical referee for the whole of the Isle of Wight at certain specified rates of payment. The agent made it virtually compulsory that we should first insure in the company in order to become eligible for the appointment. Foolishly, we did so, paying our premiums on the spot, each having been given to understand that he would be the sole representative of the company in the island and that the income resulting from the appointment would cover our premiums many times over! For a considerable time nothing further transpired, until after much correspondence and agitation on our part we were eventually informed that we had been appointed to our respective local districts at rates considerably lower than those specified by the agent. These appointments being, of course, utterly valueless, we both rejected them, demanding at the same time the immediate return of our cheques. Thanks to the good offices of the Medical Defence Union our premiums have at length been returned with a very bad grace. We have recently discovered that in spite of repudiation by the head office in Edinburgh of the methods practised by their agent he is still in their active employ. As fools, we undoubtedly stand convicted, but under the strong impression that in this respect we are not wholly unique we have determined to publish our folly in the hopes that others similarly approached may know how to deal with, and what to expect from, companies who do business on these lines.

We are, Sirs, yours faithfully,

J. A. B. HAMMOND, M.B. Lond., Shanklin.
Nov. 15th, 1906. DRURY PENNINGTON, M.B. Cantab., Sandown.

CRIME SUGGESTIVE OF INSANITY.

AT the recent assizes at Gloucester Mr. Justice Phillimore had before him a man, 60 years of age, described as a chimney sweep, who was found guilty by the jury of setting fire to a haystack and against whom the following record was produced by a prison warder. He had three days' imprisonment for a petty larceny in 1862 and afterwards there were other convictions not specified in the report before us, until in 1867 he was sentenced to ten years' penal servitude. In 1878 he was sentenced to 12 years' penal servitude for incendiarism, and ten years later to 15 years for setting fire to a rick. In January last he received four months' imprisonment for stealing a bridle and bit. Mr. Justice Phillimore, who tried him on the last-mentioned occasion, has now sent him to penal servitude again for 12 years. That he is a dangerous person who ought not to be at large admits of no doubt, but that a man who, in a single lifetime, has earned 36 years of imprisonment by wantonly destroying his neighbours' property by fire should be of normal mental capacity seems almost incredible. He will, however, now undergo the same treatment and the same discipline as the forger, the burglar, and the professional blackmailer, and whatever effect penal servitude may have had upon him in the past, its results certainly have not been of a curative character. Such cases would seem to support the views of those who wish to see the mental condition of convicts subjected to the scrutiny of alienists with a view to separate and suitable treatment for those who are mentally infirm.

APH-RO-DOX.

WE have seen many quack pamphlets. They all contain untruths, but we have never so far seen any one which put forward such unblushing statements as the one which now lies (in more senses than one) before us. It is issued by a quack who calls himself "M. Calman, Professor University Jagelonski, Cracow, Poland." Mr. Calman, as is the way with his brethren, opens his circular with an account of the way in which he discovered his wonderful preparation. It was not discovered in South Africa, or Mexico, or the centre of Australia, or in the kingdom of Prester John, but at Jena by M. Calman when he was a student. After he had discovered the wonderful combination which was "the vital, OR LIFE, principal," he met with what should have been a great disappointment. For he found that Dr. Schenck, M. Pasteur, Dr. Koch, Professor Brown-Séquard, and Sir J. Lawson Tait, physician to King Edward VII. of England, "were all employing in their work the essence of the life principle which I had discovered." Far from being disappointed, however, M. Calman "was filled to bursting with the grandeur of the idea." He called his principle Aph-Ro-Dox, and he knows that it cures catarrhs of all kinds, purifies the blood, and vitalises the nerves, makes youth more vigorous, and resists the frigidity of advancing age in man or woman. He further favours his dupes with what great continental authorities say and here are two instances of what they say. "Professor Marianna Marsmaldi writes in the *Gazette*

Internas. de Med. Prot. as follows: 'Aph-Ro-Dox, after having been used in Europe for 25 years as the best tonic for lost vitality, debility, nervous diseases, and catarrh is now being introduced to the American people." According to the punctuation of this elegant sentence the result of M. Calman's discovery has been the introduction of catarrh to the American people. The other continental opinion is as follows:—

"No less a man than Sir J. Lawson Tait, the physician and surgeon to His Royal Highness King Edward VII., a man at the head of the medical profession in England, has set the seal of his approval and commendation on Aph-Ro-Dox. This distinguished physician says: 'After the operation for appendicitis on His Royal Highness I was gratified beyond all hopes to see the return of his former youthful vigor from the magical use of the ingredients used in Aph-Ro-Dox.'"

In case any of M. Calman's victims should see this passage we must point out that there was never such a physician and surgeon as "Sir J. Lawson Tait." The only well-known medical man of late years bearing the name of Lawson Tait had the additional name of Robert and he died untitled in 1899, three years before "His Royal Highness the King" underwent an operation for appendicitis. We wish further to point out that if M. Calman is a professor at the Jagelonsky (which should properly be termed Jaggiellonski) University at the present time he does not so appear in "Minerva" for 1904–05. Moreover, if he is so, how do letters find him addressed as follows:—

M. CALMAN, President,
Kansas City,
Missouri.

There are, as everyone knows, many fools in the world, but we wonder that anyone can be taken in by so obviously a lying document as M. Calman's circular. In an order form he appears as "The M. Calman Chemical Co."

"MONEY GRABBERS."

AN allegation was made at an inquest recently held by Mr. Wynne Baxter on the body of an infant. It was so manifestly unfair that we can only hope that the mother of the infant who made it was distraught by grief. In the course of her evidence the mother stated that "the doctor had been the angel of death," and on the coroner asking what she meant she is reported as replying, "Well, if he had only come he could have saved my poor little child—doctors are all a lot of money-grabbers, that's all they are. The doctor was ordered a week ago and when I went I couldn't get an answer." The coroner, having remarked to the mother that she couldn't expect doctors to be hanging behind the door, called the medical man, who stated that he went at once on being summoned, found the child very ill, and sent the mother directly for some medicine. In reply to the coroner he stated that he had not been paid at all, to which the coroner said, "And yet you have been called a money grabber. That's very unfair." There is none of our readers who will not agree in this opinion, but the whole episode is one more example of the ways of a certain class who think that they are at liberty to order "a doctor" in the same way as they would order a pair of boots, and who though they may feel but little obligation to pay for the latter feel none at all to pay the former.

M.D. Lond. (Brixton) has omitted to intrust us with his name. The question being clearly only one that a medical man could have put to us we have pleasure in answering it, but correspondents are urged to remember our rule not to reply to anonymous communications. It seems to us fair on the patient and absolutely correct professionally that A should ask B to do the operation for the lesser fee and at B's convenience.

Query.—These preparations are of little, if any, value as invalid foods. They consist chiefly of the extractives of meat with much salt, and contain very small quantities of real nutrient. They serve as stimulants to the flow of gastric juice, acting much in the same way as condiments and must be regarded as adjuvants and nothing else.

ERRATUM.—In the report of the proceedings of the Leeds and West Riding Medico-Chirurgical Society in THE LANCET of Nov. 17th, p. 1353, we published a note on a paper read by Dr. T. Churton. In his description of the first of the three cases alluded to the words "no optic neuritis" occur. Dr. Churton wishes to point out that there was intense optic neuritis, the optic tracts being involved in the tumour.

COMMUNICATIONS not noticed in our present issue will receive attention in our next.

During the week marked copies of the following newspapers have been received: *Westminster Gazette, Rotherham Advertiser, Herefordshire Mercury, Western Mail (Cardiff), Daily Chronicle, Cork Constitution, Morning Leader, Tribune, Liverpool Post and Mercury, Surrey Advertiser, Literary Digest (New York), Scientific American, Irish Times, Daily News, Star, Dundee Courier, Glasgow Herald, Bolton Chronicle, Birkenhead News, Leeds and Yorkshire Mercury, Newcastle Evening Chronicle, &c.*

METEOROLOGICAL READINGS.

(Taken daily at 8.30 a.m. by Steward's Instruments.)

THE LANCET Office, Nov. 22nd, 1906.

Date.	Barometer reduced to Sea Level and 32° F.	Direction of Wind.	Rainfall.	Solar Radiation in Vacuo.	Maximum Temp. Shade.	Min. Temp.	Wet Bulb.	Dry Bulb.	Remarks.
Nov. 16	29·910	S.W.	0·14	55	54	42	41	43	Overcast.
,, 17	29·414	S.W.	0·50	57	52	43	47	51	Overcast.
,, 18	29·230	S.W.	0·27	64	47	44	42	44	Cloudy
,, 19	29·160	W.	0·09	55	44	34	36	36	Foggy
,, 20	29·580	W.	0·08	67	52	36	37	39	Fine
,, 21	29·630	S.W.	0·32	61	58	39	51	52	Overcast.
,, 22	30·260	S.W.	...	82	60	52	56	57	Overcast.

Medical Diary for the ensuing Week.

OPERATIONS.

METROPOLITAN HOSPITALS.

MONDAY (26th).—London (2 P.M.), St. Bartholomew's (1.30 P.M.), St. Thomas's (3.30 P.M.), St. George's (2 P.M.), St. Mary's (2.30 P.M.), Middlesex (1.30 P.M.), Westminster (2 P.M.), Chelsea (2 P.M.), Samaritan (Gynæcological, by Physicians, 2 P.M.), Soho-square (2 P.M.), City Orthopædic (4 P.M.), Gt. Northern Central (2.30 P.M.), West London (2.30 P.M.), London Throat (9.30 A.M.), Royal Free (2 P.M.), Guy's (1.30 P.M.), Children, Gt. Ormond-street (3 P.M.).

TUESDAY (27th).—London (2 P.M.), St. Bartholomew's (1.30 P.M.), St. Thomas's (3.30 P.M.), Guy's (1.30 P.M.), Middlesex (1.30 P.M.), Westminster (2 P.M.), West London (2.30 P.M.), University College (2 P.M.), St. George's (1 P.M.), St. Mary's (1 P.M.), St. Mark's (2.30 P.M.), Cancer (2 P.M.), Metropolitan (2.30 P.M.), London Throat (9.30 A.M.), Samaritan (9.30 A.M. and 2.30 P.M.), Throat, Golden-square (9.30 A.M.), Soho-square (2 P.M.), Chelsea (2 P.M.), Central London Throat and Ear (2 P.M.), Children, Gt. Ormond-street (2 P.M., Ophthalmic, 2.15 P.M.).

WEDNESDAY (28th).—St. Bartholomew's (1.30 P.M.), University College (2 P.M.), Royal Free (2 P.M.), Middlesex (1.30 P.M.), Charing Cross (3 P.M.), St. Thomas's (2 P.M.), London (2 P.M.), King's College (2 P.M.), St. George's (Ophthalmic, 1 P.M.), St. Mary's (2 P.M.), National Orthopædic (10 A.M.), St. Peter's (2 P.M.), Samaritan (9.30 A.M. and 2.30 P.M.), Gt. Northern Central (2.30 P.M.), Westminster (2 P.M.), Metropolitan (2.30 P.M.), London Throat (9.30 A.M.), Cancer (2 P.M.), Throat, Golden-square (9.30 A.M.), Guy's (1.30 P.M.), Royal Ear (2 P.M.), Royal Orthopædic (3 P.M.), Children, Gt. Ormond-street (9.30 A.M., Dental, 2 P.M.).

THURSDAY (29th).—St. Bartholomew's (1.30 P.M.), St. Thomas's (3.30 P.M.), University College (2 P.M.), Charing Cross (3 P.M.), St. George's (1 P.M.), London (2 P.M.), King's College (2 P.M.), Middlesex (1.30 P.M.), St. Mary's (2.30 P.M.), Soho-square (2 P.M.), North-West London (2 P.M.), Gt. Northern Central (Gynæcological, 2.30 P.M.), Metropolitan (2.30 P.M.), London Throat (9.30 A.M.), Samaritan (9.30 A.M. and 2.30 P.M.), Throat, Golden-square (9.30 A.M.), Guy's (1.30 P.M.), Royal Orthopædic (9 A.M.), Royal Ear (2 P.M.), Children, Gt. Ormond-street (2.30 P.M.).

FRIDAY (30th).—London (2 P.M.), St. Bartholomew's (1.30 P.M.), St. Thomas's (3.30 P.M.), Guy's (1.30 P.M.), Middlesex (1.30 P.M.), Charing Cross (3 P.M.), St. George's (1 P.M.), King's College (2 P.M.), St. Mary's (2 P.M.), Ophthalmic (10 A.M.), Cancer (2 P.M.), Chelsea (2 P.M.), Gt. Northern Central (2.30 P.M.), West London (2.30 P.M.), London Throat (9.30 A.M.), Samaritan (9.30 A.M. and 2.30 P.M.), Throat, Golden-square (9.30 A.M.), City Orthopædic (2.30 P.M.), Soho-square (2 P.M.), Central London Throat and Ear (2 P.M.), Children, Gt. Ormond-street (9 A.M., Aural, 2 P.M.), St. Mark's (2.30 P.M.).

SATURDAY (1st).—Royal Free (9 A.M.), London (2 P.M.), Middlesex (1.30 P.M.), St. Thomas's (2 P.M.), University College (9.15 A.M.), Charing Cross (2 P.M.), St. George's (1 P.M.), St. Mary's (10 P.M.), Throat, Golden-square (9.30 A.M.), Guy's (1.30 P.M.), Children, Gt. Ormond-street (9.30 A.M.).

At the Royal Eye Hospital (2 P.M.), the Royal London Ophthalmic (10 A.M.), the Royal Westminster Ophthalmic (1.30 P.M.), and the Central London Ophthalmic Hospitals operations are performed daily.

SOCIETIES.

MONDAY (26th).—MEDICAL SOCIETY OF LONDON (11, Chandos-street, Cavendish-square, W.).—8 P.M.: Council. 8.30 P.M.: Papers:—Mr. J. Berry: A Case of Large Arterio-venous Aneurism of the Neck treated by Operation.—Mr. W. G. Spencer: An Encapsuled Sarcoma in the Pterygoid Region.

ODONTOLOGICAL SOCIETY OF GREAT BRITAIN (20, Hanover-square, W.).—7 P.M.: Council Meeting. 8 P.M.: Casual Communications:—Mr. F. Coleman: A Follicular Odontome in a Boy, aged seven.—Mr. W. F. Mellersh: A Method of Repairing Crown and Bridge Facings (illustrated with lantern slides). Paper:—Mr. J. B. Parfitt: Some Mechanical Principals of Everyday Practice.

TUESDAY (27th).—ROYAL MEDICAL AND CHIRURGICAL SOCIETY (20, Hanover-square, W.).—8.30 P.M.: Adjourned Special Discussion on the Operative Treatment of Non-malignant Ulcer of the Stomach and its Chief Complications, with Indications, Limitations, and Ultimate Results (opened by Dr. N. Moore).

WEDNESDAY (28th).—HUNTERIAN SOCIETY (London Institution, Finsbury-circus, E.C.).—8.30 P.M.: Pathological Meeting.

THURSDAY (29th).—NEUROLOGICAL SOCIETY OF THE UNITED KINGDOM (11, Chandos-street, Cavendish-square, W.).—9 P.M.: Hughlings Jackson Lecture:—Sir Victor Horsley: The Illustration by Recent Research of Dr. Hughlings Jackson's Views on the Functions of the Cerebellum.

LECTURES, ADDRESSES, DEMONSTRATIONS, &c.

MONDAY (26th).—POST-GRADUATE COLLEGE (West London Hospital, Hammersmith-road, W.).—12 noon: Pathological Demonstration:—Dr. G. C. Low. 2 P.M.: Medical and Surgical Clinics. X Rays. 2.30 P.M.: Operations. Diseases of the Eye. 5 P.M.: Lecture:—Mr. Baldwin: Practical Surgery.

MEDICAL GRADUATES' COLLEGE AND POLYCLINIC (22, Chenies-street, W.C.).—4 P.M.: Dr. S. E. Dore: Clinique. (Skin.) 5.15 P.M., Lecture:—Dr. L. Guthrie: Apoplexy and its Treatment.

LONDON SCHOOL OF CLINICAL MEDICINE (Dreadnought Hospital, Greenwich).—2.30 P.M.: Operations. 2.30 P.M.: Sir D. Duckworth: Medicine. 3.15 P.M.: Mr. W. Turner: Surgery. 4 P.M.: Dr. StClair Thomson: Throat and Ear. Out-patient Demonstrations:—10 A.M.: Surgical and Medical. 12 noon: Ear and Throat.

TUESDAY (27th).—POST-GRADUATE COLLEGE (West London Hospital, Hammersmith-road, W.).—10 A.M.: Gynæcology. 2 P.M.: Medical and Surgical Clinics. X Rays. 2.15 P.M.: Diseases of the Throat, Nose, and Ear. 2.30 P.M.: Operations. Diseases of the Skin. 5 P.M.: Lecture:—Dr. S. Taylor: The Sequelæ of Influenza.

MEDICAL GRADUATES' COLLEGE AND POLYCLINIC (22, Chenies-street, W.C.).—4 P.M.: Dr. H. Mackenzie: Clinique. (Medical.) 5.15 P.M.: Lecture:—Dr. A. P. Luff: The Treatment of the Various Forms of Gout.

LONDON SCHOOL OF CLINICAL MEDICINE (Dreadnought Hospital, Greenwich).—2.30 P.M.: Operations. 2.30 P.M.: Dr. R. T. Hewlett: Medicine. 3.15 P.M.: Mr. Carless: Surgery. 4 P.M.: Mr. M. Morris: Diseases of the Skin. Out-patient Demonstrations:—10 A.M.: Surgical and Medical. 12 noon: Skin.

NATIONAL HOSPITAL FOR THE PARALYSED AND EPILEPTIC (Queen-square, Bloomsbury, W.C.).—3.30 P.M.: Clinical Lecture:—Dr. A. Turner: Tremors.

CHARING CROSS HOSPITAL.—4 P.M.: Dr. Bosanquet: Demonstration (Medical). (Post-Graduate Course.)

CENTRAL LONDON OPHTHALMIC HOSPITAL (Gray's Inn-road, W.C.).—5 P.M.: Mr. Wells and Mr. Maclehose: Classes of Instruction in the Use of the Ophthalmoscope, with Demonstrations of Cases.

NORTH-EAST LONDON POST-GRADUATE COLLEGE (Tottenham Hospital, N.).—4.30 P.M.: Lecture:—Dr. G. P. Chappel: Constipation and its Treatment.

WEDNESDAY (28th).—POST-GRADUATE COLLEGE (West London Hospital, Hammersmith-road, W.).—10 A.M.: Diseases of the Throat, Nose, and Ear. Diseases of Children. 2 P.M.: Medical and Surgical Clinics. X Rays. 2.30 P.M.: Operations. 5 P.M.: Lecture:—Dr. Robinson: Gynæcology.

MEDICAL GRADUATES' COLLEGE AND POLYCLINIC (22, Chenies-street, W.C.).—4 P.M.: Mr. P. J. Freyer: Clinique. (Surgical.) 5.15 P.M.: Lecture:—Dr. J. Fawcett: Some Pathological Specimens with Interesting Clinical Histories.

LONDON SCHOOL OF CLINICAL MEDICINE (Dreadnought Hospital, Greenwich).—2.30 P.M.: Operations. 2.30 P.M.: Dr. F. Taylor: Medicine. 3.30 P.M.: Mr. Cargill: Ophthalmology. Out-patient Demonstrations:—10 A.M.: Surgical and Medical. 11 A.M.: Eye.

CENTRAL LONDON THROAT AND EAR HOSPITAL (Gray's Inn-road, W.C.).—5 P.M.: Demonstration:—Mr. J. Atkinson: External Ear.

HOSPITAL FOR CONSUMPTION AND DISEASES OF THE CHEST (Brompton).—4 P.M.: Lecture:—Dr. H. Batty-Shaw: The Sphygmomanometer, its Practical Use.

THURSDAY (29th).—POST-GRADUATE COLLEGE (West London Hospital, Hammersmith-road, W.).—2 P.M.: Medical and Surgical Clinics. X Rays. 2.30 P.M.: Operations. Diseases of the Eye. 5 P.M.: Lecture:—Mr. Keetley: Clinical.

MEDICAL GRADUATES' COLLEGE AND POLYCLINIC (22, Chenies-street, W.C.).—4 P.M.: Mr. Hutchinson: Clinique. (Surgical.) 5.15 P.M.: Lecture:—Mr. A. Carless: Some Injuries about the Elbow-joint.

LONDON SCHOOL OF CLINICAL MEDICINE (Dreadnought Hospital, Greenwich).—2.30 P.M.: Operations. 2.30 P.M.: Dr. G. Rankin: Medicine. 3.15 P.M.: Sir W. Bennett: Surgery. 4 P.M.: Mr. M. Davidson: Radiography. Out-patient Demonstrations:—10 A.M.: Surgical and Medical. 12 noon: Ear and Throat.

CHARING CROSS HOSPITAL.—4 P.M.: Demonstration:—Mr. Clogg: (Surgical). (Post-Graduate Course.)

ST. JOHN'S HOSPITAL FOR DISEASES OF THE SKIN (Leicester-square, W.C.).—6 P.M.: Chesterfield Lecture:—Dr. M. Dockrell: Coccus Diseases: I., Impetigo Contagiosa; II., Furuncle; III., Carbuncle; IV., Coccogenic Sycosis.

WEST END HOSPITAL FOR NERVOUS DISEASES (Welbeck-street, W.).—5 P.M.: Lecture:—Dr. D. Grant: Nervous Disturbance in connexion with Aural Disease.

SAMARITAN FREE HOSPITAL FOR WOMEN (Marylebone-road, N.W.).—5 P.M.: Lecture:—Dr. McCann: Vaginismus.

NORTH-EAST LONDON POST GRADUATE COLLEGE (Mount Vernon Hospital, Hampstead).—5 P.M.: Demonstration:—Dr. J. E. Squire: Cases of Chest Disease.

FRIDAY (30th).—POST-GRADUATE COLLEGE (West London Hospital, Hammersmith-road, W.).—10 A.M.: Gynæcology. 2 P.M.: Medical and Surgical Clinics. X Rays. 2.15 P.M.: Diseases of the Throat, Nose, and Ear. 2.30 P.M.: Operations. Diseases of the Skin. 5 P.M.: Lecture:—Mr. Armour: Clinical.

MEDICAL GRADUATES' COLLEGE AND POLYCLINIC (22, Chenies-street, W.C.).—4 P.M.: Mr. E. Clarke. Clinique. (Eye.)

LONDON SCHOOL OF CLINICAL MEDICINE (Dreadnought Hospital, Greenwich).—2.30 P.M.: Operations. 2.30 P.M.: Dr. R. Bradford: Medicine. 3.15 P.M.: Mr. McGavin: Surgery. Out-patient Demonstrations:—10 A.M.: Surgical and Medical. 12 noon: Skin.

NATIONAL HOSPITAL FOR THE PARALYSED AND EPILEPTIC (Queen-square, Bloomsbury, W.C.).—3.30 P.M.: Clinical Lecture:—Mr. Gunn: Optic Neuritis.

SATURDAY (1st).—POST-GRADUATE COLLEGE (West London Hospital, Hammersmith-road, W.).—10 A.M.: Diseases of the Throat, Nose, and Ear. 2 P.M.: Medical and Surgical Clinics. X Rays. 2.30 P.M.: Operations.

LONDON SCHOOL OF CLINICAL MEDICINE (Dreadnought Hospital, Greenwich.)—2.30 P.M.: Operations. Out-patient Demonstrations:—10 A.M.: Surgical and Medical. 11 A.M.: Eye.

ROYAL SANITARY INSTITUTE (Imperial Hotel, Malvern).—11 A.M.: Discussions on the Area for Sanitary Administration (opened by Mr. J. W. W. Bund) and Progress in Works of Public Health in Malvern in Recent Years (opened by Mr. W. Osborne Thorp).

EDITORIAL NOTICES.

IT is most important that communications relating to the Editorial business of THE LANCET should be addressed *exclusively* "TO THE EDITORS," and not in any case to any gentleman who may be supposed to be connected with the Editorial staff. It is urgently necessary that attention be given to this notice.

It is especially requested that early intelligence of local events having a medical interest, or which it is desirable to bring under the notice of the profession, may be sent direct to this office.

Lectures, original articles, and reports should be written on one side of the paper only, AND WHEN ACCOMPANIED BY BLOCKS IT IS REQUESTED THAT THE NAME OF THE AUTHOR, AND IF POSSIBLE OF THE ARTICLE, SHOULD BE WRITTEN ON THE BLOCKS TO FACILITATE IDENTIFICATION.

Letters, whether intended for insertion or for private information, must be authenticated by the names and addresses of their writers—not necessarily for publication.

We cannot prescribe or recommend practitioners.

Local papers containing reports or news paragraphs should be marked and addressed "To the Sub-Editor."

Letters relating to the publication, sale and advertising departments of THE LANCET *should be addressed "To the Manager."*

We cannot undertake to return MSS. not used.

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WILL Subscribers please note that only those subscriptions which are sent direct to the Proprietors of THE LANCET at their Offices, 423, Strand, London, W.C., are dealt with by them? Subscriptions paid to London or to local newsagents (with none of whom have the Proprietors any connexion whatever) do not reach THE LANCET Offices, and consequently inquiries concerning missing copies, &c., should be sent to the Agent to whom the subscription is paid, and *not* to THE LANCET Offices.

Subscribers, by sending their subscriptions direct to THE LANCET Offices, will insure regularity in the despatch of their Journals and an earlier delivery than the majority of Agents are able to effect.

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The Manager will be pleased to forward copies direct from the Offices to places abroad at the above rates, whatever be the weight of any of the copies so supplied. Address—THE MANAGER, THE LANCET OFFICES, 423, STRAND, LONDON, ENGLAND.

Communications, Letters, &c., have been received from—

A.—Messrs. Allen and Hanburys, Lond.; Lord Armstrong, Lond.; Messrs. Armour and Co., Lond.; Dr. J. Grant Andrew, Glasgow; Mr. Stanley B. Atkinson, Lond.; Ambidextral Culture Society, Lond., Hon. Secretary of; Mr. R. J. Albery, Lond.; Adam's Manufacturing Co., Lond.; Mr. H. Brunton Angus, Newcastle-on-Tyne.

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